

LANDS AND PEOPLES OF THE WORLD

J.A. HAMMERTON

The Editor of Peoples of
All Nations & Countries of the world

First Volume



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BY ARTHUR MEYER

Editor of the Children's Encyclopedia

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ALL THE WORLD IN COLOUR

Earth's Wonderful Family and its Beautiful Home

An Introductory Chapter

By ARTHUR MEE

Editor of The Children's Encyclopedia

THE oldest thing in the world made by man is a tool shaped from a flint, and the oldest thing in the world made with this tool is a picture. As far back as we can trace him man has been making pictures, and even long before man came there were pictures in the world.

Around me in my library lie pictures of a world that no man knew. Here are the marks of the ripples of the waves before a human foot had trod the earth. Here are cracks in the sand made by the sun, and hollows made by the rain in those days. Here is a picture of leaves and petals made in the days when our coal was growing like trees. Here is a reed that was blowing in the wind in that mysterious long ago. Here are little holes burrowed by worms, the very mark of a place where some creature in its beautiful shell lay down while the rocks were forming. Here is an ant, perfect before my eyes, which crept about the earth too far back for our imagining.

They are nature's own pictures, little bits of the world before man that none of us can look upon without a thrill to-day.

Around me is another gallery of pictures, emerging from the dawn of civilized life and fashioned by the hands of man. There are lovely little arrow-heads, hardly bigger than a sixpence, made perhaps to kill a bird or to please a child in that dim long ago. There is a queer little figure of a man who lay in the heart of a mountain up the Nile when Joseph was filling

Pharaoh's barns with wheat. There are portraits in bronze and earthenware many hundreds of years older than Christianity. There is a tablet recording that a man had bought a cow in Nebuchadrezzar's Babylon. There are treasures made and handled by the Romans nearly two thousand years ago, when they ruled the world. There is a stone worn down by a Roman who used it for sharpening his knife. There is the solemn white figure of a priest who looks out across my books after sleeping with an



Fine tattooing on the face of an old Maori chieftain in New Zealand.

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Paint-smeard medicine man of the Australian Blackfellows

Emperor of China for more than a thousand years. There is a piece of oak that was growing in England when Alfred was driving back the Danes. There is a sword that was wielded in the great Crusades. There

is a stone from Westminster Abbey and a piece of wood from the roof of William Rufus in Westminster Hall. There is a cannon ball that was fired against England by the Spanish Armada. There is a Great Seal of England stamped on a document when John Milton was alive.

They are history's pictures, the work of men who have left their impression on the world for thousands of years.

SO, all through history and for ages before history, the picture has been telling its story. Every child in every age has loved the picture, and truly there is nothing like it. Truly, also, there is nothing like this book of which I write here these first words. We are the first of all the generations that have ever been to know the picture as we have it now, and the picture as we have it in this book is something inventors have been striving for in vain since many of us were born. Let us see what that means—let us look back quickly at the history of the picture.

It began with the shaping of figures in clay, and then with the scratching of the head of an animal on a piece of bone, the bone of a reindeer or a mammoth. About twenty thousand years ago that must have been, and it may have been immensely more than that. Then, too, the Cave Men drew and painted pictures, for magic purposes, on the walls of special caves. We find the work

of these men, whose very races perished long ages ago, in caves at Dordogne in France and at Altamira in Spain. For thousands of years men made pictures like that.

For an immense period of time we lose all trace of Art, though we cannot doubt that it was there. In every age of the world's history man has sought to leave some image of his world behind him, in every stage of human life we find it so. If we go back as far in human nature as we can, to the lonely figures hidden away in the heart of that great empty continent of Australia, we find even there these scratchings of animals on stones, these pictures in caves. If we go to the lonely islands of the Southern seas we find there gigantic figures carved in stone, sculptures bigger than Michael Angelo dreamed of and perhaps as old as ancient Rome. If we go to the East we find its teeming millions worshipping their unknown gods in temples carved with countless images in stone. If we



A quaint duet. Musicians from the Philippine Islands

go to Africa we find the Bushmen still in that stage of Art which other men had reached more than twenty thousand years ago. If we dig down in the sands of Asia we find Art there. If we climb up the Andes, to the lost cities of the Incas, we find Art there.

We find it in carving and painting, on vases and in temples, in pottery and in bronze. Always and everywhere, in one way or another, man is making pictures.

WONDERFUL it is to come up through this great picture gallery of man until we find ourselves in those majestic temples of his Art, the ancient empires. It is his glorious Age of Colour. He builds vast palaces and temples and

floods them with the colour of the rainbow. He invents a picture language and writes it large upon his spacious walls. The traveller who has been to the Valley of the Tombs of the Kings of Egypt can never forget the feeling of ever-deepening mystery and wonder that comes upon him as he walks through these corridors deep down in the heart of a mountain, through chamber after chamber, between walls ablaze with colour as fresh after thousands of years as the colour in last year's Academy. As with Egypt, so with Babylon and Assyria and Crete. So with Greece, in that imperishable age when she crowned the earth with beauty and fashioned those pictures in marble which will remain in the world when the name of Greece has faded from the map of Europe.

For centuries we lose sight of man's beautiful pictures, but when we come to them again it is with wonderful surprise. We are away from "the glory that was Greece and the grandeur that was Rome," and are lost in wonder in some ancient monastery where a devoted monk pores through all the hours of his working day, through all the days of his long year, through all the years of his most patient and devoted life, over a sacred vellum, filling it with pictures that have made his page to-day a rich man's treasure. What is that gulf of time between our Cave Man scratching his pictures on his piece of



Papuan boy magic mask and smock

bone and this faithful monk at work on his page of vellum? It is, maybe, two hundred centuries and more, and yet there is in both these men the craving for a picture, that love of something beautiful, that skill and delicacy in craftsmanship, which are the essence and foundation of great Art.

How the Picture Records History

FEW more centuries, and Cimabue, who found the shepherd boy Giotto drawing pictures of his dog, was opening the gates of that new world of pictures in which Titian and Leonardo and Raphael and Michael Angelo were to win their immortality. The art galleries of Europe bear witness to the way in which their genius has stamped itself upon the world; they are crammed with paintings in which the great masters of colour have pictured the world of their day. For five hundred years there is hardly a generation of life in Europe that is not faithfully represented on canvas, so that we can see what life was like at that time—how people looked and dressed, the work they did, and the homes they lived in. We see the famous figures of history as in a great procession. We see the quiet scenes of private life and the public splendour. We see what a city such as London was like before its quaintness and simplicity gave way to the massiveness and grandeur of these later days.

We see the sights of a world that is no more with us; they are preserved for us in all their vivid colour, and with all the feeling of their movement, in an impressive array of pictures which no man in his lifetime can exhaust.



Ready to shoot their poisoned arrows
Pygmy archers in a Congo forest

AND now we come to what is surely one of the supreme achievements of this age of scientific miracles. Man, who through so many ages laboured

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patiently and slowly to record the life of his time in pictures, has found another way of making pictures. He has found a little black box with an eye that can look out upon the world, see what is happening, and set it down in a flash to endure for all time. As a



How the Swahili women of Zanzibar decorate their noses

book sets down the thoughts of men so that they do not die, so photography stores up the vision of the passing world, takes up the scene of a passing hour, so that those who were not present may see it when they will and where they will. If a man cannot go to see a thing, the camera will bring the thing to him. That is the final triumph of man's long dream of the picture.

It has been a long march from the scratching of a manmoth's head on a piece of bone to the photographs of the life of the world as we see them in this book. As the old artists pictured the life of their time, so the photographers of LANDS AND PEOPLES have pictured the life of our time. They have gone out into every country of the world, into great cities that all men know, into far-away places that few people know, and have brought back pictures of life as it is, exactly as it is. That is a scientific triumph of no mean order.



The aged queen of a powerful tribe in the Belgian Congo

There have been artists who have left behind a record of some aspect of the life of their time in their own land—as Constable left his record of our English countryside, as Reynolds left his portraits of the famous people of his day, as Landseer left his animals and Romney his children, but no man has ever pictured so much of the life of the world in any generation as we have pictured for us in this book.

And yet, as if that were not boast enough for any editor to make, the Editor of LANDS AND PEOPLES has accomplished something still greater than a photographic gallery of the life of the world. What this book does is what the inventors have been trying to do in vain for over a generation.

It has put colour into photography. Art and Science have here joined hands to make a picture of the life of the world

such as has never been made before in history.



The clever hairdressing of the Hausa women in Nigeria

MARVELOUS as photography is, in one sense it has failed; the colour photograph is still a dream, and the world of photography is a world of black and white.

A world of black and white! The daffodils will soon be coming; think of them in black and white! The violet and the primrose and the bluebell will be here; think of them in black and white! Imagination can hardly conceive a world such as that would be, with all the warmth and glow of colour gone. It has been the dream of photographers for half a century that colour photography, now practically impossible on a great scale, should become as easy as photography in black and white;

By Arthur Mee

but the dream has not come true, and but for a bold idea of overcoming it this weakness might have spoilt this book.

It was the idea of the Editor of **LANDS AND PEOPLES**, who has spent years of his life in preparing this picture gallery of the life of the world's races, that the pictures should be a faithful record of the world as it is, and therefore it was decided that every picture used should be a photograph. But how, then, were we to have the colour of the world, the world as it really is, and not a mere world of black and white?

Here it is that the bold idea of **LANDS AND PEOPLES** has succeeded beyond all expectations. What Science has failed to do, Art has done. The thing that has never been done before, because the cost has been prohibitive, has here been done. Some seven hundred photographs from all over the world have been coloured by artists from original sources, so that they become actual photographs with colour true to life, a remarkable anticipation of the final triumph of the camera that will show the world as it really is, in all its glow of red and green and gold.

Colour Makes Pictures Live

THE colour of the world—can anything compare with it? The scientist will tell you it does not exist, but the traveller knows better. He has seen the sun set on the Nile. He has looked on Taj Mahal. He has been over the hills to



Weird garb worn as ceremonial dress by girls about to be married in Basutoland

Cettinje. He has seen the Riviera ablaze with flowers. He has seen the flamingo and the humming bird. He has seen the blue-bells in the wood and the poppies in the corn, and the goldfishes swimming for ever and ever round the great



Face-veil as worn by Mahomedan women of Old Egypt

pond in the Tuileries. He has been in the bazaars of Cairo and Constantinople. He has seen the moving throngs of people in Regent Street and the Corso and the Champs-Élysées. He has gone into his garden in the depth of winter and found the periwinkle blooming bravely through the snow.

Many things a traveller round the world forgets, but its colour he remembers. The black-and-white picture is like a memory to him, but show him the colour and it is like being there.

AND so we have in this book one of the things the world most badly needs in these days when there is growing up the generation whose business it is to save mankind. We are marching to a friendlier and happier world, a world of love in place of hate, of peace instead of war, and one thing is needful—an understanding of each other. To grow up knowing our neighbours in the world is the surest way to peace. We do not hate the man we know; we do not fight the people we love; and it is the purpose of this book so to familiarise us with the lands and peoples of the world that we can cherish no ill-will for them. We are one great human family, and this is the book of our brothers and sisters.

The lands of the world! Every one of them is somebody's homeland. We look about our Little Treasure Island, and we

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would not change it for all the richer lands. We would not give up its little country lanes for all America's great highways. We would not change her hamlets for India's gorgeous cities. We would not give our pleasant streams for



Smiling face of a sun-loving negro from South Algeria

the Amazon or the Ganges. We would not lose the ruined walls of Beaulieu Abbey for the Forum or the Colosseum. Our little church towers are more

to us than Egypt's great pylons; our fields of buttercups are dearer far to us than Monte Carlo is to any heart. Better a cottage in a little English garden than riches in a gorgeous palace far away.

Yet, if we feel like this about our homeland, we must grow to learn that every land on earth is somebody's dear home. Those friends of ours in other lands love their great mountains as we love our little hills. They are stirred by the sight of their great rivers rushing past as we are stirred by our small streams. Their vast and lonely spaces have for them the touch of the sublime that comes to us in the stillness of the fields. We are a part of all that we have met. The things we love become our very selves; the little bit of earth we call our home is wrought into our lives.

If we think of the earth in this way there must come to us the consciousness of the world as one vast homeland of peoples.

THE more we see of it, and the more we know of it, the less we shall think of the earth as a cold thing like a planet, and the more we shall think of it as a friendly thing like a home. It belongs to us, to fifty millions of us here in Little Treasure Island, and to nineteen hundred million other people who are willing and waiting to be friends. Here they all are, each in his own corner of the garden of the world.

There are those not far away across the water, the great industrious people of France and the hard-working Belgians, the descendants of the Viking in the northern lands, and the German people with that wonderful power which might be used for the good of us all if we all forgot the past. There are the people of Hungary, moving anxiously in the shadows after their history of a thousand years. There are the great Italian people, with a new strange spirit growing up in their wonderful and ancient land. There



Indian snake-charmer with cobra, mon-goose, pipe and drum

is Spain with all her troubles, with her greatness in the past and her future all unknown. There is Poland born again, the heart of her people beating high with the thought that Poland is a nation at last. There are all those races in the heart of Central Europe, new nations stirring where ancient empires rose and fell, with a hundred million people free from chains and shackles, a little



Arab merchant and his donkey from Bethlehem

By Arthur Mee

astonished at the power that has suddenly come to them and not quite sure how they will use it. There are the Persians all uneasy in the last of what is left of the Bible empires.

And out beyond all these are four hundred million Chinese people, not knowing what to do, their ancient order overthrown, their new one trembling yet unformed. There are hundreds of races speaking hundreds of tongues under our flag in India, with that most pathetic multitude of people now alive upon the earth, the sorrowful Untouchables, sixty millions strong. There are sixty million energetic Japanese crowding another little island empire, and beyond them lies the almost empty continent, Australia, with its fringe of people, favoured with all the climates known to men. And there is New Zealand, with all her loveliness, and all her hope, and all her power of being great.

There is the marvellous



Spectacled age and chubby youth in China



Two little maids of Japan plucking the fragrant leaves on a tea plantation

continent with twenty homelands on it, unknown to Europe till Columbus found it, and now with the leadership of the world almost in its grasp. There is Canada building up a

future perhaps beyond her dreams, seeking no conquest but the conquest over Nature. There is her mighty neighbour, smaller than herself in land yet twelve times as great in people—the United States of

America, grown from a handful of English people who sailed in a few little boats in the days of a King of England who had not been fit to tie the shoelaces of an Englishman named Shakespeare. There are all the lazy and hard-working peoples of the rest of this great continent of Chile, with her great nitrate mines; of Argentina, with the cattle and horses on her rolling plains of Brazil



Native boatman on China's great river the Yangtze-Kiang

with the amazing wealth locked up in her forests, of Mexico, with all her natural richness and all her human misery.

And there is Africa, her darkness passing away, her great highways developing from north to south, with the British

flag at one end, and Egypt at the other, and a hundred million backward peoples filling the lands between.

The lands of the world—what wondrous lands they are! God made them, and shaped them, and gave them: their rivers and hills; it is for us to see that peace dwells in their borders.

We are going to see them; we are going round the world in little journeys. We shall see a wondrous host of people, and such sights as men have looked on from the beginning of the world.

WE are the last generation of people that will look on many of the sights we shall see, for they are passing away from the world after thousands of years. For ages the camel

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caravans have carried the merchandise of the East across the desert sands, but they will soon be seen no more. The motor-bus has come to Bagdad, and when that happens we feel that something like a glory is passing from the East. It is something to have produced this picture gallery of the life of the world while so much of its ancient pageantry is yet to be seen. We feel, as we turn over some of these pages, that we are looking on the fading colours of another age, but we are glad that all this glory did not pass too soon for us to see it here exactly as the East has seen it for a thousand years.

This vast family of ours, with all but two thousand million grown-ups and children in it, how astonishing a multitude it is! These brothers and sisters, and these quaint little cousins with whom we have to learn to live in peace and friendliness, how wonderful they are in these pictures of their daily round!

The Folk we see in our World-journey

THINK of the sights we see in our journey round the world!

We see the patient Chinese with his quaint wheel barrow taxi. We see the bright and beautiful children in a Japanese garden. We see those astounding men, the pearl divers of Ceylon. We see the extraordinary medley of life in India, its temples surrounded by beggars, snake charmers and men of mystery— and with those men of dreams with visions of an India that can be great and keep herself untouched by the movement of the world outside.

And among these brothers and sisters of ours in the world of peace that we are marching to is the splendid mahout, leading his elephant in the great procession

of the native princes; all these strange people bathing in the sacred river Ganges; the monks who live on the Roof of the World, much as if nothing had happened on the earth since Moses led the Children of Israel through the wilderness, still governing by a system of priest-kings the mysterious cities of the Himalayas. Our brother or sister, too, is the Eskimo far away in his snow-house, fishing through a hole in the ice or hunting the great white bear: the old Maori people, enduring



The Beekeepers of Italy. Swiss Papal guards outside the Vatican.

remnant of a race that will not die out, still living round their totems and keeping all their ancient ways; the simple people on such islands as Samoa, such folk as Robert Louis Stevenson chose to live and die with, the lake-dwellers, living to-day as people lived in Europe ten thousand years ago, the brave people of the frozen front of Labrador, the little land that faces ours across two thousand miles of sea. In our family, too, are America's red men and black men, those men and boys of Borneo who bring down with their blow-pipes a bird from the air or a monkey from a tree; the muezzin on his minaret calling the Mahomedan to prayer; the little Beduin mother loving her doll outside

the mud hut under the waving palms, and the desert folk living in the shadow of the tombs and temples of the kings.

Do you know the depths that we have come from, the wild and barbarous ways of our ancestors? It is hard for us to think of days and scenes like those, but here are people crawling in them still. We see the wild people and their ways, every age of the world still existing somewhere, some race in every stage of life that man has known. It is pitiful sometimes, pathetic, to see the little faces haunted with

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mystery. Even in the British Empire, under that proud flag which has spread abroad happiness and freedom and peace where ever the sun shines, we find savage little children playing ; people who believe in witchcraft and still burn witches ; people of every colour and tongue, believing every credible and incredible thing ; tribes in every grade of life through which our ruling race has passed.

A book of time as well as of places is this, a picture story of the rise of man out of darkness into light.

7 E see the Stone Age and the Wireless Age side by side ; men still making fire with flints, still making war with bows and arrows, and men with the pride of Shakespeare in their hearts and all the powers of science in their hand

There are 296 figures in the wonderful Colour Pageant of the World's Peoples given with this book and in some way or other we meet them all in LANDS AND PEOPLES. They represent



Baggy-trousered mayor of a Breton village signs a paper

mankind in every stage of its development ; in every hour of its life, let us say. It is something to see the members of our family face to face, to meet them in their home life as they are, to see them at their work and play, to feel that what they want in the world is just to be happy, to live their little lives in this fair garden of the world, and to pass on, leaving the world no worse, but perhaps a little better, than they found it.

Who can help liking these people as we meet them ? This woman at the well in Samaria, drawing water as in the days when Jesus of Nazareth passed by ? This

strange, aloof people in the depths of Australia, far away from its fringe of civilized men ? These primitive folk in the depths of Africa, with a wireless far, far older than Marconi's, tapping out their messages on their talking drums ? These island peoples, almost unknown and untouched ? These millions of people toiling day by day in the big empire of



Well swaddled baby of Plougastel in Brittany



Where men wear petticoats : Hungarian peasants in gala attire

these hundreds of races that make up our great family.

For ever the world changes before the traveller's eyes. There is nothing like travelling for keeping the mind alive. Nothing is quite the same anywhere ; we are all impressed by different things—the colour, the movement, the buildings, the

the little Dutch Homeland ? Who can look with a mind dull and dead on the life of the banks of the rivers, the peoples of the Amazon and the Congo, the Niger and the Nile, living in trees or mud houses or caves, or in hamlets lost deep in the forests ? How little they dream where the waters go as they watch them running past, little guessing that they run on to the sea, washing the shores of mighty cities, bearing round the world great ships and little boats, keeping in touch with one another all that make up

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cities, the roads, the people, the great spaces, the deep silences, thousands of wonderful sights and sounds, millions of people doing things. A Chinaman who had been round the world thought the loveliest thing he had seen was an English field of buttercups. A



Young Laplander of Sweden has a ride, cradle and all

countryman who came to London thought the most astonishing sight he saw was the scavenger boy in the street, running in and out among the horses. A Redskin who came to Europe was surprised by only one thing, a baker's oven. Wherever we look the life of the world is astonishing and beautiful to see, and it has never been shown more vividly than in this book.

Look at these Redskins, of that brave and famous race still living in places its primitive life with its bow and arrow, a



The garb of native fashion in Mexico: a Caballero mounted on his snowy steed

queer survival of the ages, looking as if they half belonged to another world.

From the frosty north of America to the stormy south, through ten thousand miles of every clime, we find the native "Indians" of that vast continent. We find them climbing up the Andes, where in ancient times they lived in wondrous cities and built up powerful empires. They were there in Drake's day and they

are there to-day.

But was ever such a change?

And we find the great black races everywhere—we find them free with a State of their own, we find them free in the white man's lands, we find them living their own wild life, and we find them still in slavery.

It is one of the fine things of this book that



Two maids of Wales attire in their national costume

it responds to the great idea that is in all of us, the idea that change is a very good thing. It is made so that we can roam where we will, when we will, not needing to begin at the beginning and go to the end, but taking little journeys as we like to take them. We can be now in one of the great cities of Europe, and now in a country lane. We can be standing amazed in the Grand' Place in Brussels, that loveliest of all the little market-places in the world, or listening to the bells of Bruges, or roaming in the land of sphinx and palm and pyramid. We can be strolling through the towns and palaces of wonderful Arabia or roaming in its desert ways; or we can be with the shepherds and their flocks in Palestine. We can be watching the midnight sun from a boat or looking through the Alhambra windows in Spain, stirred with the thought that the race which built this lovely place in Europe is back

By Arthur Mee

in its wild African home again. We can wander through the old streets of Normandy, through the green vales of Brittany, or feel that we are talking with a Dutch boy staring at the sailing-boats on the Zuyder Zee



Skilled Peruvian waterman at home in the Amazonian jungle

We can be looking down on Old Rome from the spacious platform of the new monument of Victor Emmanuel, or can be looking down on Old Athens from the marvellous ruins of that Acropolis where Socrates and Plato talked with one another. We can choose to go to Venice and be dazzled by such beauty as no other city on the earth can show, or we can choose to spend an hour in the mountain fastness of Afghanistan.

Perhaps you like roaming in vast spaces, gathering vivid impressions. Here they are. We come upon the life of the Prairie, the great corn belt of the New World, where we find the white man growing wheat to feed about half the world, and the white man on his horse seeking new

adventures, reminding us all in this practical world that man cannot live by bread alone. We come to the Steppes, the vast stretches of pastoral land where we meet the peasants of Russia and the wandering tribes of Turkistan. We come to the

Veld, not long ago the scene of war and now the scene of the life of the industrious Boer farmer, fitting himself into the building-up of a great South Africa. We come to the Desert, that astonishing stretch of golden sands with the little

oases of life amid the palms. We come to the Tundras, where primitive tribes have a world to themselves, ablaze with colour when summer comes and alive with reindeer all the time. We come upon the Pampas, the wide grass lands of Argentina, feeding its countless hosts of sheep and cattle and



Indian of British Guiana shooting fish with bow and arrow

horses. We come to the Bush, holding in her mysterious embrace perhaps the most primitive folk in the world.

But they are our little brothers and sisters, yours and mine. They are part of this great, wide, wonderful world. It has room for us all. It is covered with beauty and crowded with fine people. It abounds with simple sights that touch all hearts and things too wonderful for words. Its colour never fades, its kindness never dies. Its setting suns bring peacefulness and sleep; its dawns bring wakefulness and strength. It will show us the wonder of the past; it will show us the promise of the future. It is ever old yet ever new. Out of it, when life is at its darkest, you and I and all these other people in our family can make a paradise. All we need to do is to learn to understand and love mankind, to share with Ulysses the love of lands and men, and feel ringing within us the spirit of the words that urged him forth: *Come, my friends, 'tis not too late to seek a newer world.*

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Pan-pipes played by a South American Indian of far Brazil



The Glacier



The Cavern



The Mountain Stream



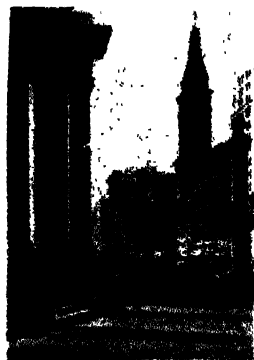
The Castled Crag



The Gorge



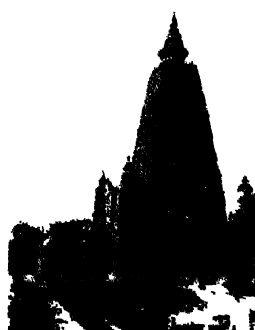
The Rocky Coast



The Great City



The Lake



The Temple

GLIMPSES OF THE WONDERFUL WORLD THROUGH WHICH WE ARE TO TRAVEL

The small photographs given above and in the preceding pages of the Introductory Chapter are not intended as illustrations to Mr. Mee's contribution, but have been taken, almost at random, from our later pictorial pages to suggest the scope and variety of the scenes we shall visit and the peoples we shall meet in our imaginary journeys to all parts of the world.

At School the World Over

CONTRASTS FROM MANY LANDS IN SCHOLARS & METHODS

This is the first of our general chapters in which we are not confined to one country but range in interest over the globe. While most of our chapters will be found to describe and illustrate the native races and the lands they dwell in, there are many others that deal with general subjects such as school life, or boat-making and sailing, music or fishing, and these serve to show the curiously different ways in which different races try to do the same thing. It is quite surprising, for instance, to see how different are the conditions in which children of other lands than ours attend school.

IF a boy or girl had the misfortune to grow up without schooling of any kind, life would be to either only a wonderful palace, the doors of which were locked and the keys lost. It is school life that supplies the keys.

One key helps us to observe things for ourselves and to look with understanding upon the natural and the man-made objects which comprise the world we see. Another opens up for us the thoughts of great men who have gone before, teaches us how they faced life's problems, and passes on to us the answers they found. A third key teaches us how by drill and sport and attention to cleanliness we may keep our bodies strong and healthy. Yet another enables us to know ourselves, to find out what we are best fitted for, and how to prepare for it. And the last key is perhaps the most important of all, the one that teaches us how to "play the game," to run straight,

how to work hard and to be good chums. On the proper use of these keys the true progress of any nation largely depends, although the world has been a long time finding it out.

If you stood in the centre of Europe and travelled thence in turn to the four points of the compass you would find as you went, north and west more and better schools; travel east and south and the schools would be fewer and poorer, until in some parts of the east only the very rich children would be educated at all. In many countries where the working year is short, or the land poor and the life hard, children only go to school for part of the year, for they must work during the rest.

During the summer, in Switzerland, they work, taking the cows to the high mountain pastures, milking the goats, helping with the scanty crops and gathering in fuel for the winter. Even in the long winter,



Baptist Missionary Society

IN A MISSION SCHOOL OF CHINA

Left to themselves Chinese boys learn only their alphabet and some native literature, by heart. But at the Mission schools boys and girls are taught by European teachers just like English children.



Maynard Owen Williams

HAPPY LITTLE CHINESE GIRLS ON THEIR WAY TO SCHOOL

Away from European influence, the Chinese girl seems to have a very poor time of it, being simply a household drudge without knowledge or any sort of education. But where there are European schools the girls have the same chances as the boys. The usual dress is the cotton coat and trousers worn by boy and girl alike.

when they go to school, they help their parents with wood-carving and lace-making in their spare time. But they work well and learn quickly, and they have plenty of fun with their sledges and toboggans out in the snow.

The children of Spain and Italy have but little schooling; in Spain, especially, many of them never learn even to read or write. They have too many other duties to do. In Italy they help to dry the chestnuts, look after the goats and the silkworms and, if they are girls, spin the silk. They work in Spain on the farms, and when the grapes are ripe they are very busy in the vineyards gathering the grapes and helping to make the wine, which is one of the great industries of the country.

When you go farther north to Germany and Holland, you find that great store is set upon education in all its branches. No children have ever spent so much time at school or worked so hard at their lessons as the German children. Germans have always believed in being "thorough," and in Southern Germany continuation classes are compulsory for three or four

years. Besides open-air schools for delicate boys and girls, summer camps, with teachers in charge, for school children, or "wander birds" as they are called, are a favourite institution in holiday time. German children love nature study, and in the higher schools there is every month a "wander day"—that is, a day set apart for country rambles.

We find in France a school system not unlike our own, but less time is given to sports and games. Education in the primary schools, which correspond to our elementary schools, was made free in 1881, and compulsory between the ages of six and thirteen in 1882. This primary instruction is supplemented by the higher education of the convent schools and the lycées, which in some ways take the place of our "public" schools.

In the Scandinavian countries school children are generally well cared for. Many of the new schools in Denmark are models as regards teaching and furnishing. General education started in Sweden before the idea of it gained ground in other countries, and the children are very intelligent; gymnastics and Swedish

AT SCHOOL THE WORLD OVER

drill have an important place in elementary schooling. The condition of the Norwegian children is very like that of the Swiss, who go to school in the winter.

The little Finns and the Laps and the Eskimos of the frozen North help with the reindeer and the dog teams, with the hunting and the fishing, all the summer. They go to school in winter, though the little Eskimos of Labrador, unless they live within reach of a Moravian mission, have no lessons and no games, except those they invent for themselves. When Dr. Grenfell, the explorer, went to Labrador he was surprised to find that none of the children he met had ever seen a doll. In answer to his appeal, dolls were sent out from England, but so proud was the Eskimo householder of this new possession that instead of giving the doll to the children to play with he hung it up out of reach, just under the roof of the hut!

Wherever the missionary goes, sooner or later he starts a school, even if he has to make his own school books. A little while ago a lady missionary in Africa had

to teach a class of eager little negroes, who wanted to know about the earth going round the sun. For the earth she took an orange, for the sun a lamp. Then she ran a knitting-needle through the orange to make the earth's axis, tilted it at the right angle, and, twisting the needle, spun the orange on its axis and moved it round the lamp. This is the vivid and direct kind of education that appeals to the little negro mind.

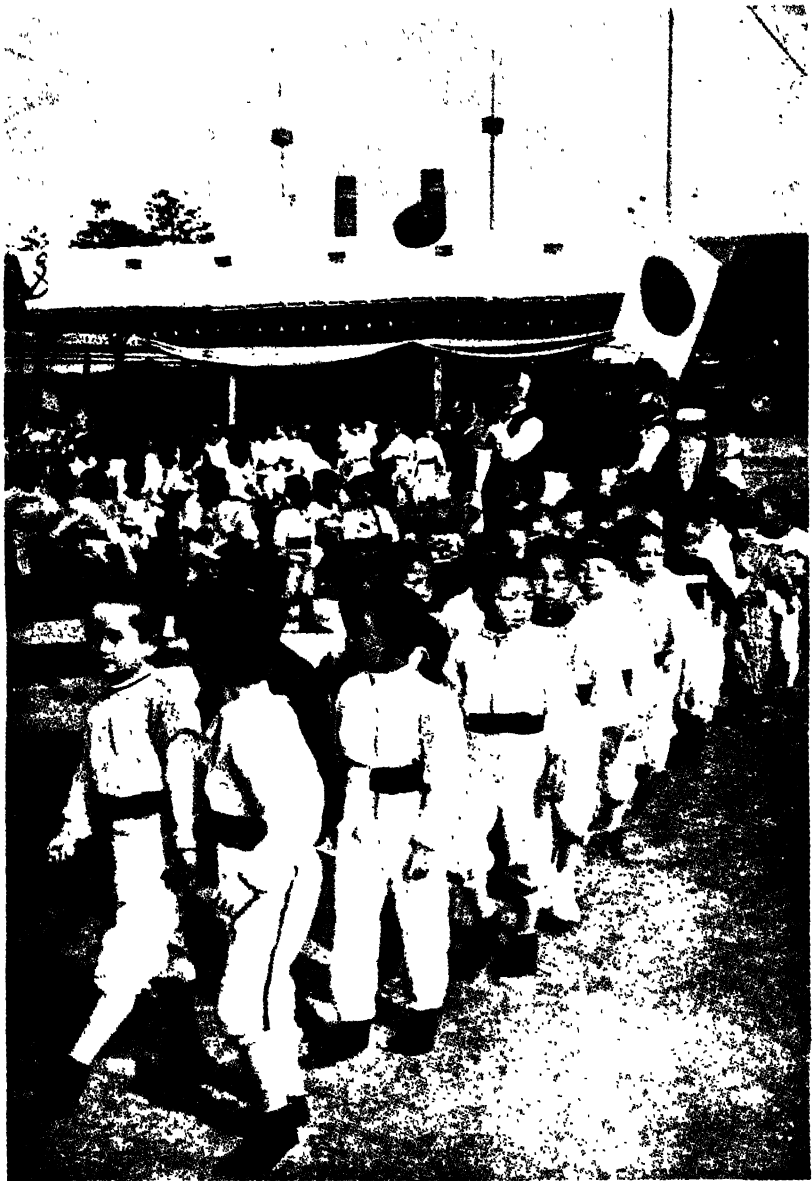
On Tristan da Cunha, that queer little British island in the South Atlantic Ocean, where letters and news from the rest of the world come only once in two and a half years, and there are no shops, always the same things to eat and sometimes not even enough of those to go round, the parents are only too pleased for their childrer to learn. Whereas when we go to the East things are very different. There, until recently, only the children of the rich were educated at all, children whose parents could afford to engage teachers whatever the cost. In this way the upper classes, especially in China and Japan, were very highly educated, because the



Mrs. Doreton

YOUNG BURMESE AND THEIR BUDDHIST MASTER

At the age of about eight every Burmese boy goes and lives in a monastery for a few weeks, and if he is thought suitable for a monk's life remains there. If not, he is sent home again. Each of the boys in this class is holding a slate on which is written the Burmese alphabet. Besides the alphabet they learn little save religious poetry.



Rev. Walter W...

JAPANESE BOYS PARADING ON A FESTIVAL DAY

No country is more patriotic than Japan, and here are the pupils at a boys' school marching past the flag of their country. Behind is a model of a Japanese cruiser. At a Japanese school the boys are always drilling, and all of them who are physically fit for military service go into the army for two years so soon as they reach the age of twenty.



CLASS OF YEMENITE JEWS IN SCHOOL AT JERUSALEM

You will notice that several of these small Jews are wearing the red cap—shaped like a flower-pot upside down—that is called a fez. This is a relic of the days when the Turks ruled the Holy City. Yemenite Jews are said to be descended from Ishmael, and originally came from Yemen, in Arabia. They form a separate colony in Jerusalem



ESKIMO SCHOOLBOYS FROM LONELY LABRADOR'

The only schools in this cold seaboard of the North Atlantic are those carried on by the Moravian missionaries, who first went there in 1771. There are little settlements along the coast, mostly on the rivers, and in each there is a school for four days a week in winter-time. Here children start learning when they are only six.



F. Deaville Walker

TAMIL CHILDREN FROM SOUTHERN INDIA COMING OUT OF SCHOOL

These Tamils are about the most intelligent of the peoples in South India, and are especially renowned for the wonderful way in which they can learn by heart and remember their work. On their forehead you will notice the "caste" marks, signs of their rank and religion, which are painted in red, yellow or white.

East had learning and wisdom many centuries before the West, and the teachers had great stores of learning to pass on to their scholars.

Of all the nations of the East the Japanese were the first to adopt Western fashions, to open big schools, and have their children taught by up-to-date methods. But even to-day, in some parts of Japan, the children come to school with a baby brother or sister strapped on the back. An American lady who went as a teacher in Japan said that when her first class assembled there came a little girl of eight with her baby brother strapped on her back—she carried him thus from the time she got up until she went to bed.

English is now taught in the schools of Japan, and as they grow up many Japanese boys come to England to finish their education, to study English law and customs, and make themselves familiar with our commerce and industries. As boys they are trained in all physical exercises and patriotism is encouraged in every possible way. Healthy athletic exercises, too, are fast changing the physique of the modern Japanese girl and she is already bigger and longer-limbed than her mother. Her habit of going unattended to school has made her independent. She now expects and is allowed such freedom as must rudely shock her grandmother.

AT SCHOOL THE WORLD OVER

The Chinese are not nearly so adaptable as the Japanese. They can do beautiful original work, but they will not "copy" like the Japanese, therefore it has been much more difficult to introduce new ideas into China. The Chinese have customs which to us appear very quaint—in fact, they seem to do everything topsy-turvy. A Chinese schoolboy does not write with a pen, he paints the letters with a brush; he starts his page at the bottom instead of the top, writes up the page instead of across it, and the columns of letters go from right to left.

Under the new Chinese Republic, however, the modern idea of education is

beginning to spread. In the few cases where schools for girls have been opened by the city authorities these schools are run much on the lines of our own High Schools, and the girls wear European clothing. Modern Chinese schoolboys play football in jerseys and shorts, and matches are arranged between government and city schools. There is a simplified Chinese alphabet which it is possible to learn to read and write after a few weeks, and the schoolbooks used are like our own school readers, except that they are printed in Chinese.

But the children of the poorer classes in the East have had to be content with



Donald McLeish

THE READING LESSON: INSIDE A VILLAGE SCHOOL OF SWEDEN

At Leksand, beside Lake Seljan, the children still wear their old-fashioned national costumes, and the schoolroom is heated by the tall stove, so common in Scandinavia. On Sundays all the grown-ups go to church dressed like this, but there are not many places in Sweden where the beautiful clothes of old times are still worn.



THE SCHOOL BAND FOR THE PHYSICAL DRILL CLASS

We are here in the playground of a big London County Council school for infants. The children come out two by two, boys on the left, to drill in time to the music. The child of to-day is luckier than his father was. New systems of education, inspired by such teachers as Froebel and Montessori, have made school brighter and helped the child to teach himself.



YOUNG CITIZENS LEARNING BY GRAPH THE GROWTH OF THEIR CITY

One of the most vivid ways of explaining a problem in mathematics is by the application of a graph. In following the increase, through a number of years, in the population of your own town, for instance, the graph shows what you want at a glance. The need for committing to memory long lists of figures is also done away with by this method.



Brown Bros

LOOKING AFTER HEALTH IN THE UNITED STATES

What is called in America a "public school" is run by the State for both boys and girls. The school nurse is inspecting the tongues and teeth and health certificates of every one after the holidays, a feature of the school system being a strict regard for healthiness. Notice the poster "A Better American Education Brings Success"



EDUCATION IN A FLOWER POT: CHILEAN SCHOOLGIRLS OF SANTIAGO

A botany class is seen potting bulbs at a school in Santiago, the capital of Chile. Each pot is labelled with its owner's name, so that nobody can claim a better bloom than they have themselves grown. This is an outdoor class, for in this part of Chile all the rain comes in one season, with mostly blue skies for eight months in the year.



DOCTRINE IN THE DESERT: ARAB BOYS AT WORK ON THE KORAN BY AN OASIS OF PALMS

How would you like doing lessons with only the desert sand to sit on, sand as hot as the dry air around, and with a Sahara sun blazing white on your book? These books are copies of the Koran, the Mahomedan Bible, and are made of a number of pages tied together with string through a hole in the top of each leaf. The Arab boys learn more of the Koran than anything else, and the sand serves as a blackboard if the master muffled in white and sitting with his back to the camera, wants to write down any of the lesson.



Paedagog. Jernu

A CLASS IN THE PLAYGROUND : DRAWING A HORSE AND CART FROM A HOME-MADE MODEL

In learning to draw, or anything else, you have to start with the easy subjects. Here in a German school is a model that does not stand still while you draw. It will be seen that several of the boys look much like a cart with a horse in the shafts, but yet gives the general idea of proportion and the perspective of the different parts model in order to get them accurately into their drawings.



THEY ALL KNOW THE ANSWER: ARITHMETIC AS IT IS TAUGHT IN TANGANYIKA

In the sunny climates of equatorial lands the schoolchildren can it is often very difficult to make them come regularly. But the work for much of the year out of doors. In this part of East Africa masters, being themselves natives, know all the tricks, and the pointer many former native school children have grown up to be school- on the blackboard is sometimes put to more painful uses! Blackboard masters. Once the pupils are in school they are willing enough, but and easel are of the usual pattern, but the schoolhouse is sadly ruinous.



WITH THE WOODS FOR A CLASS-ROOM : CONVALESCENT CHILDREN AT CHARLOTTENBURG

A special outdoor class for German school children who have been ordered country air by the doctor is being held here. The wooden shack which serves as a schoolhouse can just be seen on the right. At the moment when this photograph was taken, an English lesson

was going on and the master had just written on the blackboard : "When do you get up in the morning"—it is to be hoped that he is going to put in the question-mark and has not forgotten it. These beautiful woods are near Charlottenburg, a town outside Berlin.

AT SCHOOL THE WORLD OVER

very little schooling Boys, if they lived in Mahomedan countries like Egypt, Turkey, or parts of India, would be sent to a holy man, who would hold his class in the courtyard or cloister of a mosque, and the greater part of the school time would be spent in learning the sacred books, especially the Koran, by heart. As they usually have to learn it in Arabic, whether they understand the language or not, it hardly sounds very interesting.

Apart from the religious teaching and the sayings of the wise men they learned little. Even so, the schooling was for boys only—it is only quite recently that girls in the East have been taught at all. The Easterns believed that girls were intended to work in the home, so while the boys were learning from the priest, their sisters were at home being taught to cook and

clean and mend, to draw the water from the well, and do all kinds of drudgery. The idea was that as the girls would be married very early in life, it was not worth while teaching them anything else.

Of all the children of the East those of India seem to be the least fortunate—even to-day only one boy in ten can read and write and only one girl in a hundred. India is so vast a country, and most of its people are terribly poor and opposed to all change. In time they will come to see how much better and brighter and healthier people are when educated under proper conditions.

But the world is changing, and even in Turkey girls in the higher circles of society are going quite openly to a big school in Constantinople. Nor is it so very long ago that in England we were in



Sorae W. Nichols

CLATTERING CLOGS OFF TO SUNDAY SCHOOL IN HOLLAND 14

Every Dutch child must go to school at the age of seven—in England the age is five for elementary education. Even when so young, in the country at least, children are dressed like little men and women. Education is well looked after in Holland, technical schools being especially numerous and even private institutions receiving grants.



COMB AND TOOTH BRUSH RACK IN A BERLIN DAY SCHOOL

This rack contains over a hundred little cases, one for each child in the school, and every one numbered. In the cases are combs, and outside each a little band holds a tooth brush. When the children come in the morning they have to use comb and tooth brush; when they arrive back at school after lunch they have another scrub; and yet a third, so thorough are they, before going home in the evening.

little better case than the "unchanging" East, so that it never does to feel too "superior" when we see others a little behind ourselves.

Not until 1870, for instance, was it made compulsory for every British child to go to school, and not until 1891 that elementary education was made free as well as compulsory. Nevertheless, it must be said that Scotland was ahead of England. Education north of the Tweed became popular long ago, which is probably the reason why, wherever you go, you will

find Scotsmen holding important positions in every department of life.

In the greater part of the British Empire and in North America—that is, wherever the people are either British or of British descent—the school training is on very much the same lines, and though, on the whole, it is not so thorough as in Germany, it is better, in some other ways, than even German training, for it pays more attention to sports and outdoor life and lays greater stress on the fifth key—the "rules of the game."

The Redskins of To-day

A PEEP AT THE ORIGINAL DWELLERS IN NORTH AMERICA

There are considerable differences between the native "Indians" of America; the tribes of the north are distinct in many ways from those of the centre and the south. In the following contribution we deal only with the northern tribes, which are popularly known as Redskins, and under that name have occupied a great place in literature. In a later chapter we illustrate and describe the Pueblo Indians, who are a house-dwelling folk and not wandering hunters like the Redskins of the north

TWO very interesting pieces of news came from North America during the year 1924. One, that the herd of buffalo--or, rather, bison--preserved from extermination in Canada had increased so greatly that it was necessary to kill some of them off; the other, that the Red Indian population had risen by 2,619 in one year.

When the white man first set foot upon the American continent there are supposed to have been about five million Indians in what is now known as the United States and Canada. The coming of the white man was death to the Indian. It was not so much the fighting that caused the numbers of the red men to decrease; it was the diseases imported from Europe that did the damage. Worst of all was smallpox, which up to that time had been unknown in North America. It destroyed whole tribes. Measles, too, and influenza worked shocking havoc.

First Steps to Fair Treatment

Tribal wars, wars with the white settlers and, later on, with the forces of the United States continued to thin the numbers of the Indians, until, about the year 1870, it was freely prophesied that within another generation the red man would be extinct. Happily, the United States as well as the Canadian Governments had come to see that this was cruelly unfair, and reservations--that is, special lands--were set aside for the use of the Indians.

These reservations were put in charge of officials whose duty it was to see that the Indians were properly supervised. Rations of food and free medical attendance were given. Best of all, the sale of "fire-water," as they called the inferior

whisky and other spirits supplied to them, which were destroying the tribes, was stopped. Schools were established, and trading posts and stores where the Indians could sell their furs and other produce at fair prices. The result is that the race, which was once on the point of being exterminated, is now increasing.

The Redskin Takes to Motoring

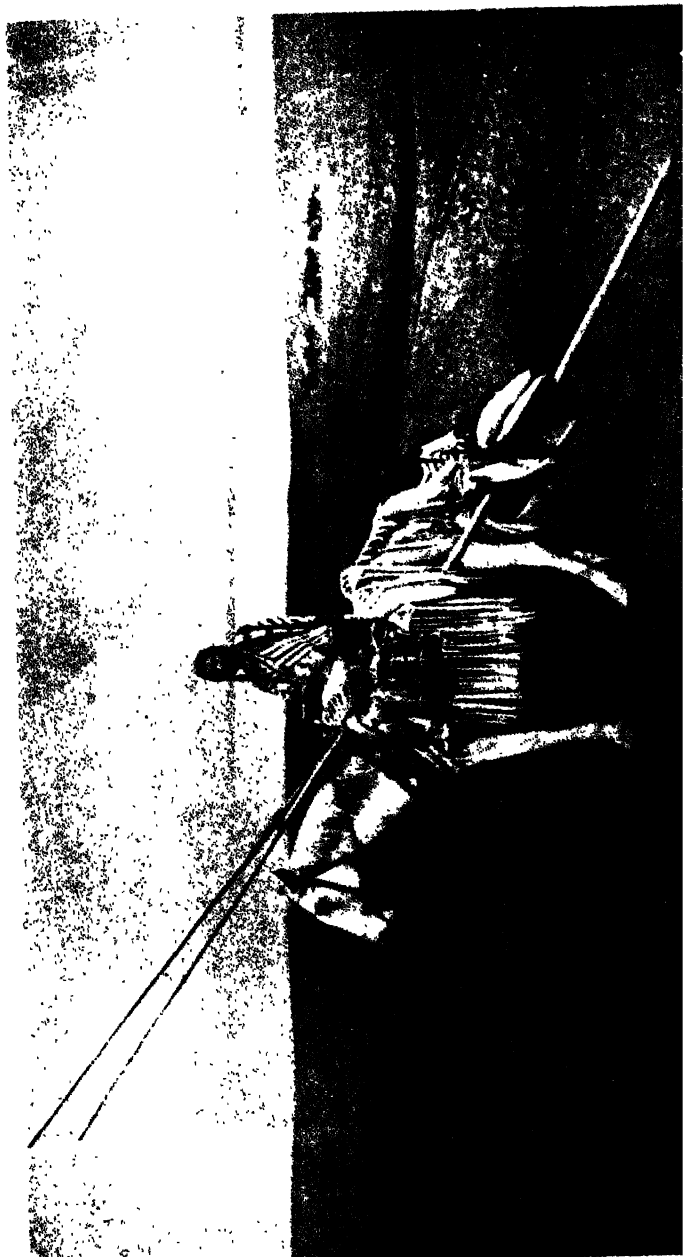
In the United States alone there are 365,000 Indians who still live in tribes on their reservations, as well as another 60,000 who have mingled with the general population. The greatest number of Indians is to be found in the state of Oklahoma, where there are now some 70,000. They hold nearly 20,000,000 acres of land, an area about equal to Ireland, and enormously valuable because of the rich oil fields which it contains. Here you will see Indians wearing bowler hats or tweed caps driving into the towns in their Ford cars. Most of them live in well-built houses, and even possess gramophones and wireless installations, and they send their sons and daughters to good schools and colleges.

The other states in which Indians are most plentiful are Wisconsin, Minnesota, South Dakota, North Carolina, Montana, Arizona and California. Except in the remotest villages in the reservations and in out-of-the-way parts of Canada, the old-style Redskin dressed as you see him in these pages is extinct. The principal tribes which still survive are the Sioux, Cheyenne, Isoquois, Choctaw, Chicasaw and Seminoles. All these, except perhaps the Seminoles, are increasing in numbers.

Whence did the Indians come? This is a question about which there has been



REDSKINS. The family of tribes to which this old Sioux belongs is spread over parts of Canada and the United States. His "eagle-feather" head-dress proclaims him a chief; but these feathers come, as often as not, from the hawk, and even from the turkey in the south, both birds renowned for bravery. His breast ornament is of bird bones and "wampum"—originally coloured shells, now usually replaced by beads—and his mantle is made of the bright stuff sold to the Indians and called "trade" cloth.



HOW THE REDSKIN TRANSPORTS HIS BELONGINGS OVER THE PRAIRIE-LANDS OF CANADA

When the first explorers discovered America, the Red Indians had no knowledge of the uses of a cart-wheel, though they employed various kinds of sledges. With the introduction of the horse the device seen above was adopted for moving camp over the flat prairie lands. Two long tent poles are lashed together in front of the saddle and joined behind by a cross-bar; bedding and baggage are lashed to the latter, and on top of all ride the babies. The scene of this bumpy journey is in Alberta, a province of the far west of Canada

THE REDSKINS OF TO-DAY

much discussion, and even to this day no one knows for certain, although the general belief is that their ancestors made their way across from Asia in those very ancient days before the two continents were separated by the Bering Straits

Many thousands of years ago—perhaps before the coming of the last Ice Age—wandering hunters began to drift across from Asia, the cradle of the human race, in pursuit of game, and these, in course of ages, worked southwards until they had peopled the whole continent. They found a country richer in game than any other part of the earth's surface, and, oddly enough, it was this fact which prevented their becoming civilized. Primitive man's first requirement is food, and if he can get it by trapping and killing wild animals he continues to do so. The result was that, when the white man reached North America, he found a people who were still in the Neolithic or New Stone Age. They made beautiful spears and knives of flint and shell, but except in the south had no acquaintance with metal.

Influence of Land on Life

And here is the interesting point. Those tribes who worked farthest south reached a hot and partially desert region where there were no buffalo and few deer. These, finding that they could no longer depend upon game, settled down, built permanent houses, or made their dwellings in caves instead of living in tents, and took to cultivating the land. They grew maize, vegetables and tobacco, and also domesticated certain creatures, such as sheep and turkeys. Not having skins from which to make clothes, they invented ways of weaving hair and vegetable fibres. They learnt how to make pottery by burning clay. They even gained some knowledge of metal-working. These tribes are called the Pueblo Indians and will be found fully described elsewhere in this work.

Here it may be mentioned that the term "Red" is almost as incorrect as "Indian." Just as the English "black beetle" is not a beetle and not black,

similarly the Red Indian is not an Indian and not red. The term Indian was applied to him by the Spanish invaders, who, when they first reached America, were under the impression that they had arrived in a part of Asia which they vaguely called "The Indies," while, as for "red," the nearest approach to it among the Indians is a copper colour. Most of the aboriginal North Americans have brown or chocolate skins.

Deadly Accuracy with the Dart

The hunting Indians of Canada and the United States had a certain civilization of their own, but one very different from that of the people of Mexico. They became very clever in the making of weapons such as bows, spears and throwing sticks. An English writer who visited a tribe of Osage Indians about the middle of the last century speaks of the youths clad only in breech clouts and leggings who amused themselves by launching iron-pointed arrows, dart-wise, at a slender sapling some thirty feet away. The force and skill with which they threw these weapons was amazing; yet Indians rarely became good shots with rifles.

The hunting Indians had domesticated dogs, but until the white man came had no horses. They made snow-shoes and sledges, but possessed no carts of any sort, as they had no idea of a wheel.

First Inventors of Potted Meat

They built, and still build, canoes of birch bark, craft so light that they can be easily taken across land—"portaged"—yet are capable of carrying heavy burdens. They made baskets and mats, thoroughly understood the tanning of skins from which they made their clothes and tents, and twisted fibres and sinews into strong cord. One of their cleverest inventions was "pemmican," made of pounded buffalo meat mixed with fat. This was put up to keep for a long time and gave us the idea for potting meat.

When reading of Red Indians in books, such as Fenimore Cooper's "Last of the Mohicans" and other stories of Western



Leila Clark

BLACKFEET INDIANS dwell on reservations and are kept in good order by native justices of the peace, of whom this is a fine specimen. Like the chief in the preceding colour-plate, his head-dress is of eagle feathers, but the gaily coloured shirt is of buckskin, with beads down the sides and a circular ornament of porcupine quills in the centre.



THE KIWAS, who are a racial stock living in the southern parts of the United States, were regarded as the fiercest of the Redskins, and were not finally subdued till 1875. Now they keep to their reservation in Oklahoma, dwelling peacefully under tribal chiefs such as Apiatan—the name means "Wooden Lance"—who poses in the photograph above.

Smithsonian Institute

THE REDSKINS OF TO-DAY

adventure, what strikes us most strongly is the horrible torturing of prisoners, the scalping, maimings and burnings at the stake. It seems a terrible thing to say, yet is probably true, that much of this was learned from the white man. One thing is quite certain—that the early settlers were kindly received, and it was not until white men began to steal their land that the Indian showed his brutal side. "We call them cruel," writes George



THE CIGARETTE OF PEACE

Even this old squaw, who may have seen the days when Redskin warred with White, prefers the modern cigarette to the tobacco-pipe which her forefathers invented.

Bancroft, "yet they never invented the thumb-screw or the rack or broke on the wheel, or exiled bands of their nation for opinion's sake." William Penn, the Englishman who founded Philadelphia, never had any difficulty with the Indians, for he treated them fairly. Onate, on his long journey through Arizona in the early days, found all the Indians friendly; the native expected absolute truthfulness from the white.

Another kindly trait of the Indian is the way in which he treats the insane and

feeble-minded. This habit of the Indians enabled Professor Hayden, of the United States Geological Survey, to escape from a dangerous predicament.

One day, after having filled his saddle-bags and pockets with pieces of various kinds of rock, which he was going to take home and examine, the professor found that he had wandered far from his party, and started in search of them. Seeing some men on horseback, he rode towards them, but, to his horror, discovered that they were Indians.

Knowing that he was in the country of hostiles, he turned his horse and attempted to escape. But the Indians soon overtook him and in sign language ordered him to dismount. They proceeded at once to make an inspection of his possessions. He had nothing with which to defend himself, his outfit being a pocket-knife, hammer, a chisel for breaking rock, and his watch. These they took and then began to plunge their hands into his pockets, bringing them out filled with the rock specimens.

Again and again they did this, until pockets, pouch and saddle-bags were all emptied. As the pile of stones increased upon the ground beside him, the Indians burst into loud laughter. Finally, they opened his tin box, and when they saw nothing in that but insects, they quickly closed it and, looking at one another and then very closely at Professor Hayden, tapped their foreheads and made the sign signifying crazy. Then they gave back all his things, even picking up the specimens and replacing them carefully in his pockets, pouch and saddle-bags, and in the sign language told him to mount his horse and go on.

The Indian is naturally law-abiding. In the old days war could never be declared by a single chief, but only by a council. And if a war-party went without consent of the council every one of the rebels was severely whipped. If any resisted this whipping, the punishment was death. Indians in a wild state have a great many virtues. They are very good to their children and rarely beat or punish them. An Indian loves his wife

THE REDSKINS OF TO-DAY

and family and thinks of them before thinking of himself. The boys are very carefully trained in the use of weapons and the girls brought up to help their mothers. When a young man has been away for a time on a hunting expedition and returns, his father is not ashamed to put his arms around him and hug him. It is true that the Indian rarely laughs, yet he has a sense of humour. Also, he is extremely hospitable, and although he cherishes a grudge against an enemy, he never fails to be grateful to a friend.

One point which proves how long the Indians have been a separate race is the very many different languages which they speak. To say nothing of those which have become extinct, there are between fifty and sixty different languages spoken in America north of the Mexican border. These languages differ as greatly as English from Spanish or German from French, and even in one race of Indians, the Algonquins, the four tribes, the Ojibwas, Blackfeet, Cheyennes and Arapahocs, speak languages each of which is not understood by the others.

If you inquire of the Indians themselves as to their origin, all have different stories. The Kiowas, for instance, declare that the first man was a Kiowa. How he came to appear upon the earth they do not explain, but the way in which he multiplied his race was by beating a hollow log with a stick, whereupon boys ran out of one end and girls from the other.

The Indians of Canada are less numerous than those of the United States, numbering only a little more than a hundred thousand. In Canada the Indians have never been persecuted as they were in the United States, for the great Hudson Bay Company treated them on the whole fairly, giving them every opportunity to sell their furs and trade at the Posts or Forts of the Company. During the French ownership of Canada many French trappers took Indian wives, and to-day "breeds," as the mixed race is called, are numerous in the North-West.

Tribes of Red Indian stock are found up to the very borders of the Arctic



PICK-A-BACK NO LONGER

One of the finest traits of the Red Indian is his fondness for children. This young "papoose," or baby, spent his early days strapped to the back of his patient mother.

Region, where Eskimos take their place, but the people of the coast, who live principally by fishing, are much more like Asiatics than Indians. Of Canadian Indians, about one-quarter live in British Columbia and some twenty thousand in Ontario. There, as in the United States, they are steadily becoming civilized. In most parts of Canada, with the exception of British Columbia, the Indian has the same rights of voting as the white man, so that an Indian may be elected to Parliament or any other high office if he is capable of filling it. In 1924 an Indian was actually elected to the Quebec Legislature. His name was Ludger Bastien, a manufacturer of snow-shoes. He



REDSKIN WARRIORS, when the whites first saw them, resembled this fine fellow in appearance rather than the other Indians illustrated in the chapter. Almost naked to the waist, he wears a trade blanket, it is true, but with an apron of native cloth over it, while his tasselled head-dress is of skins and his necklace of the usual wampum.



THE SIOUX CHIEF who stands here haughtily with his squaw has a head-dress of immense size reaching to his knees. Moreover, the pipe he is carrying is evidently not the "pipe of peace," as it is an iron-headed tomahawk as well—the original tomahawks were hafted stones. The woman carries a beaded bag like those of her white sisters.

Madel & Herbert



WHERE GRAMOPHONE, TWO-STEP AND TANGO HAVE REPLACED THE DREADED WAR-DANCE

Here we have left the Redskins of the reservations and are taking a peep at their more civilized brothers. They are Senecas, in New York State, and at first sight they might be mistaken for such unsophisticated Indians as are seen holding a war dance in page 31. But a closer and, to crown all, the dance they are dancing is the tango!

THE REDSKINS OF TO-DAY

belonged to a well-known Huron family. of which tribe he was the chief

In Canada special laws protect the Indians. The sale or gift of any intoxicating liquor to an Indian, except by order of a doctor, is prevented by very heavy penalties, and a special law protects the graves of Indians from being spoiled or robbed by thoughtless tourists in search of souvenirs

Though nowadays many of the reservations have ordinary cemeteries, the natural Indian way of disposing of the dead is to lay them in teepees, or tents, made from the skins of animals. The possessions of the departed—such as snowshoes, bows and arrows, or guns—are laid at his feet.

Canadian Indians have sometimes honoured white men by adopting them. In 1860 the then Prince of Wales, afterwards his Majesty King Edward VII., was made a chieftain of the Iroquois under the title of "Flying Sun." Long before that the great actor, Edmund Kean, had been similarly honoured

Full Outfit of an Indian Brave

The name given him by the Hurons was Alantenaido. The tribe presented Kean with full Indian dress, made of skins, with a broad collar of bearskins, striped leggings decorated with porcupine quills, and moccasins covered with beads; also a head-dress made of horsehair, and heavy bracelets of wampum for his arms. Wampum is the name given to the white and purple shells which were formerly used as money by all the Indian tribes. In 1919 the Prince of Wales was chosen as a chief by the Cree Indians, the name which they selected for him being Chief Morning Star.

Indian names strike us as curious. Some, like Flying Cloud and Sitting Bull, are fine and inspiring, but others are most peculiar. Recently an Indian named "Shot-His-Mother-in-Law" signed a warrant of the Treasury Department. Here are some other strange Indian names: "Finds Them and Kills Them," "Crazy Sister-in-Law," "Hears Every Way," "Strikes On Top of the Head,"

"Kettle That Boils," "Bird Tail That Rattles" and "Medicine Weasel."

As is the case with most primitive and uncivilized peoples, the Indians have always had their "shamans," or medicine men. A shaman, a Mongolian word, has been defined as "one who has the power to control ghosts by magic." An Indian does not reach the post of shaman without a very severe training. During the initiation the candidate has to go through a long period of fasting and in some cases a most barbarous wounding. The shaman is the prophet, the priest and the doctor all in one. He has some knowledge of the curing properties of herbs.

Turkish Baths in Distant America

The cure most widely used by all North American Indians is that of the sweat, or Turkish, bath. The sweat-house is constructed of skins, blankets or earth. The patient enters, and those outside heat stones and pass them in by means of sticks. Water is then poured over the stones and the opening is closed. After the patient has been for some time in a tremendous perspiration he runs out and plunges into a stream, or, if there is no river near, cold water is poured over him.

Among the Blackfeet Indians the greatest ceremonial of the year is the Sun Dance. This is held in the spring as soon as the sun gets hot, and for the purpose a special camp is formed. The medicine men choose the site, and soon a village of teepees, or tents, springs up.

How the Blackfeet Hold a Sun Dance

These teepees are beautifully decorated with painted colours. The ceremonial begins with the building of the sweat lodge, for all who take part in the ceremonial must be purified. Next comes the "Raising of the Pole" and a parade of all the tribe, each dressed in his or her best. Only on this occasion may the women wear their husband's eagle feathers in their hair.

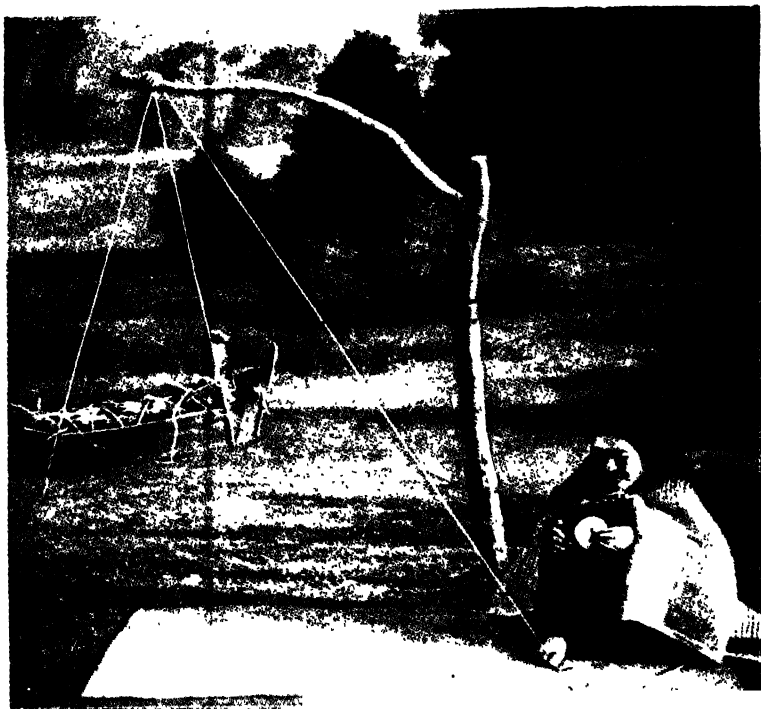
The ceremonial dress of the chief is very fine. He wears shirt and leggings of soft tanned buckskin, beaded and ornamented



THIS OJIBWA MAIDEN, a modern Minnehaha of the woods, wears a buckskin costume and leggings freely worked with beads, forming a dress of which any girl might be proud. Her footwear tells of what tribe she is, for the Ojibwas, who kept up their ancient customs longer than most other Redskins, derive their name from their puckered moccasins.



THE WIGWAM, or tent-like dwelling, of the Red Indians was made of skins or birch-bark. This family of Canadian Iroquois, however, though keeping their old costume of fur and buckskin and beads for themselves and the youngsters, have adopted canvas as a more convenient material for the home which they move with them from place to place.



THE TOE THAT ROCKS THE CRADLE VANCOUVER

This trussed bundle in its canoe-like box is a Redskin papoose. For their first few years the babies are laced to a board to keep the back straight, and on Vancouver island, Canada, their clever mothers often hang the cradle from a springy branch and set it rocking by a cord wound round the big toe, thus freeing the maternal hands for knitting.

with ermine tails. His head-dress is of red fox skin, with the tail hanging down behind. The crown of the hat is decorated with pieces of white weasel skin, and from it rise two large eagle feathers. The real ceremonial takes place inside a large lodge raised around the sacred pole, where incense made of sweet grass or of balsam fir is burned. The prayer used on this occasion is so fine as to be worth recording :

"Great Sun Power! I am praying for my people that they may be happy in the summer, and that they may live through the cold of the winter.

Many are sick and in want. Pity them and let them survive. Grant that they may live long and have abundance.

May we go through these ceremonies correctly, as you taught our forefathers to do in the days that are past. If we make mistakes pity us.

Help us, mother Earth, for we depend upon your goodness. Let there be rain to water the prairies, and that the grass may grow long and the berries be abundant.

O Morning Star, when you look down upon us, give us peace and refreshing sleep.

Great Spirit, bless our children, friends and visitors through a happy life. May our trails lie straight and level before us. Let us live to be old. We are all your children, and ask these things with good hearts

For the Sun Dance and other similar ceremonials the Indian paints his face. The medicine man or chief who is in charge of the Sun Dance will show upon the centre of his forehead a red disk for the sun and two yellow streaks for "sun dogs," or mock suns. Marks upon his arms represent the rainbow and upon his cheeks stars, while over his mouth is a red cross, the sign of fasting.

THE REDSKINS OF TO-DAY

Other festivals are the Green Corn Dance of the Iroquois, the Strawberry Festival, the Bean Festival and the Snake Dance of the Hopi, or Moqui, Indians. For this dance live rattlesnakes are caught and handled by the dancers. Yet none ever seem to get bitten.

In the strange Okepea ceremony of the Sioux fearful tortures were endured by the younger men. Wooden skewers were thrust through the muscles of their backs, and to these ropes were attached by which the sufferers were lifted from the ground. This dreadful business, which lasted four days, is happily a thing of the past. In fact, very few of the old ceremonies are still kept up, and the modern young Indian blood is more apt to dance the two-step to the music of the gramophone than to submit to the horrors of the Okepea.

The negro in the United States is naturally looked upon as an inferior race and in most States there are the sternest

laws against white and black inter-marrying. There is nowhere any such law against the Indians, and very many white men have married Indian wives. You will often see young Indians at American universities, and some of the Indian students are great athletes, being especially good at running.

Men of pure Indian blood become doctors, barristers and clergymen; others are writers or artists, but they do not take kindly to trade. There are quite a number in the American Army, and during the Great War no fewer than 15,000 Red Indians enlisted and fought splendidly. But if they make good soldiers they do not take to the sea. There is, we believe, only one case on record of an Indian becoming a sailor in the Navy.

If the real Redskins of the old pioneering days are passing, like their wampum and their tomahawks, yet we can be glad that, at least, their race is not dying out.



Ewing Galloway

51 BLACKFEET WAR DANCE THAT NO LONGER MEANS WAR

Some of the best ceremonial dances which the Red Indians still keep up may be seen on the Blackfeet reservation in Montana. A "Sun Dance" is described in the text; that this is a war dance is shown by the head-dress of eagle feathers. However, it is now danced as a pastime only, for Indian officials keep good order to-day on the reservations.



MERRIE ENGLAND. King's Bodyguard of the Yeomen of the Guard is the proper title of these Beefeaters, on their way to the Maundy Thursday ceremony at Westminster. First recruited by Henry VII. from the Bosworth veterans of 1485, one of their duties is to search the vaults of Parliament, before its opening, for a second Guy Fawkes.



THE LIFE GUARDS were organised by Charles II. from the loyalists who had followed him in 1651 on his nine years' exile in Holland. Two regiments of Household Cavalry, they have a magnificent fighting record stretching from the Battle of Dettingen in 1743 to the Great War. This is a resplendent guardsman outside headquarters in Whitehall.

GORDON McLEOD



A. W. Cutler

MAY DAY SURVIVALS AT MINEHEAD IN SOMERSET

These urchins dressed up and beating on biscuit tins are a remnant of the old May Day revels. At dawn everyone was away to the woods for flowers and branches, later there was the may-pole procession, with mummers playing S. George and the Dragon; the hobby-horse costumes are a rude attempt to show the Saint on his steed.

present and the future in the same spirit in which our ancestors met those of their own day.

We are better able to understand and to value the life of our land to-day when we know how it has altered in modern times. In the past two centuries England has been changed from an agricultural into an industrial country. It was once a country of forests, and pastures, and corn-lands, with a few small towns scattered through it. It was a country of squires who lived on their manors and managed their land themselves; of yeomen who lived in solid comfort, of peasants who were well fed and housed, of hardy fishermen from whom sprang the finest sailors in the world; and of stout burghers who nursed the seeds of commerce and political liberty.

If a citizen of England, say, of the time of Elizabeth were to revisit his former

home to-day, he would find that, at first sight, almost everything seemed changed beyond recognition. Vast spreading cities have covered the green fields with brick and mortar like lava from a volcano. Over whole counties the sky is blackened with the smoke of furnaces, and the air is filled with the whir of machinery. Peaceful lanes have become roaring highways of commerce. The old bridle-paths have been replaced by a network of railways and motor roads. The solitudes and sleepy hollows have been peopled by teeming millions. The very face of the land has changed, for new methods of agriculture have given the fields a different appearance. He would be puzzled at first, but it would not be long before he would detect features which would convince him that he was still in his own country and among his own people.

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The development of the coal and iron fields, the invention of machinery, the harnessing of steam and electricity, the growth of the factory system and the quickening of transit from place to place, by rail and motor, were the chief means whereby these far-reaching changes were brought about. The extent of the change may be measured by the enormous growth of population.

Before the seventeenth century the population of England had remained for centuries at something between two and

four millions, the chief variations being due to war and pestilence. In the seventeenth century it began to increase, but still the population of the whole country was less than the present population of Greater London. In the eighteenth century it doubled. In the nineteenth century it trebled, and it is still growing at an enormous rate. Little more than a century ago, in 1821, the population of England and Wales was 12,000,000. At the census of 1921 it was 37,885,000, and these are mostly town dwellers.



A. W. Outler

PAYING HOMAGE TO SPRING IN A SOMERSETSHIRE MEADOW

Daisy chains are the joy of a London child in the country, but these Somersetshire youngsters have had time for more ambitious wreaths. The method of making is the same, however—through a slit in a stalk a second stalk is pulled up to the bloom, another slit made in that stalk, and so on. The boy in the centre alone wears buttercups.



IN POPPY TIME, when the fields are waving with the golden grain of the wheat, there is real meaning in the words, "Merrie England." And this English girl, a type of the fair-haired, fair-skinned Saxons who are the backbone of her race, has gathered an armful of the scarlet blossoms that the children love as flowers and the farmers hate as weeds.



Horace W. Michell

ON AN ENGLISH FARM the farmer's wife or daughter has the tending of the fowls. The birds are fed once a day on odd scraps and a little corn, but most of their food they have to find for themselves. Thus they cost little to keep. The barnyard fowl is usually of very mixed stock, from Orpingtons, Wyandottes and Leghorns

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England contains to-day 649 people for every square mile, as compared with 328 to the square mile in Germany, 184 in France, 164 in Scotland, 34 in Sweden and 21 in Norway. And this is the result of but two centuries of growth.

Here, then, at our own doors is a great field for travel and exploration. We should get to know our own country. We should study its changing features, but study also those that do not change. We should miss no chance of extending our knowledge of our own land: we must learn how to travel at home. He who cannot travel with pleasure and profit at home will never make a good traveller when he comes to go abroad.



THE MARKER SIGNALS "CLAP I' THE CLOUT."

Archery is still practised. The marker only comes as near as this to the target between shots. By movements of legs, flag, and hat he then tells where the arrow has stuck. The clout is the old name for the "bullseye"

The art of travel is one of the most delightful of all arts, and it is too little practised either at home or abroad. The



"BEATING THE BOUNDS" OF THE PARISH

This custom survives in a few parishes, such as that of S. Clement Danes, London. Once a year the vicar, churchwardens and choir boys go round the parish, and the boys beat certain landmarks that mark the parish boundaries.

people who go for a few weeks bathing on the coast of Brittany, or to spend the winter lounging on the Riviera, or to enjoy the winter sports in Switzerland, or for a cruise round the Norwegian fjords, are not travellers. No doubt they find pleasure and rest in these occupations. But real travel contains joys and calls for the use of mental faculties which are unknown to them.

And, again, the holiday makers who crowd the English seaside resorts in summer, who bathe and bask and dance and go to the pictures, and the more strenuous ones who devote their days to golf—these are not travellers. They have their joys—very real and desirable joys—but they are not the joys of travel. The London boy or girl who spends a Sunday rambling in the Home Counties, or cycling farther afield, has more of

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the real pleasure of travel than all the others combined.

The true traveller is interested not merely in scenery, but in human nature. He is not content merely to gape at the things he sees; he wants to know their history. He knows how to find out the shy retreats both of town and of country, the things which are not revealed at the first encounter. He learns how to read the landmarks, how to distinguish between different varieties, and how to talk to men and get from them the valuable information which they can impart. Above all, he knows that he can only bring back in

proportion as he takes with him. You cannot see a country, even your own country, aright unless you have a background of knowledge of its history and institutions.

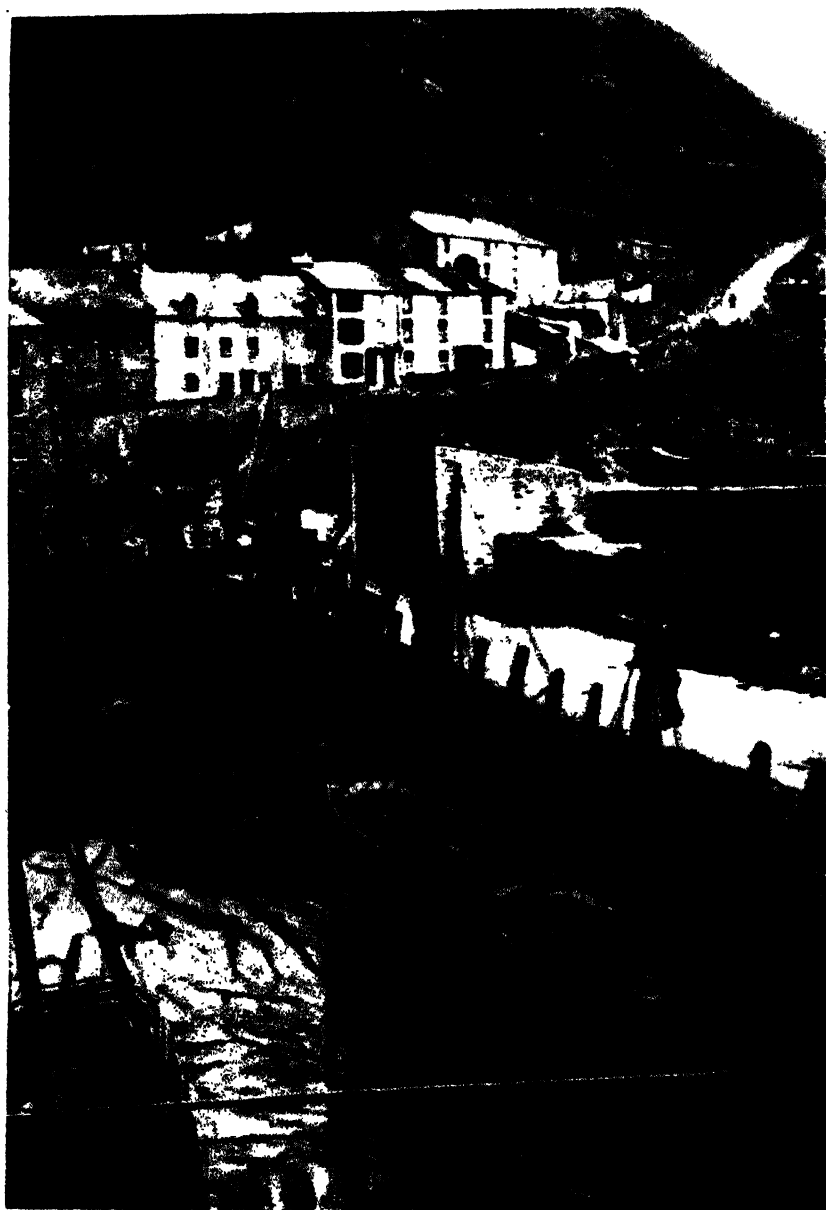
Although home travel is no longer a physical adventure in the sense in which a journey across Africa would be, or a journey at home in the days before railways, it may still be none the less adventurous in the sense of being full of novelty, and surprise, and wonder, and revelation, and amusement. The tracking down of information, the discovery of the meaning of many new and strange things, a fuller understanding of the history and character



—, Morse W. Nicholls

OYEZ, OYEZ: THE TOWN CRIER AT WORK

In the days when folks could not read, notices or advertisements were no use. So every town employed a bell-man, or crier, who went down the street calling "Oyez!"—a survival of the old Norman-French verb "oyer," meaning to hear. "Oyez," therefore, means "listen." Town criers call out warnings of public meetings or lost articles.



F. DEVLIS WASSER

POLPERRO'S SMUGGLERS were once a byword, for it was a quiet little port on the Channel and convenient for a French lugger to come close in on a dark night and lower bale and keg into a waiting rowing boat. Now there are more artists in the village than there ever were smugglers. The neighbourhood is also famous for fossils.



Morano W. Nich

FOR SUFFOLK FISHERMEN life is busy ashore and afloat, as when the boats come the nets are taken off and hung up to dry. They are carefully examined, for they oft get frayed and torn, and any breaks are mended with a special needle. These fisherm... are wearing oilskin hats, called "sou'-westers " after the stormy south-west wind.

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THE GARTER KING-OF-ARMS

He is the chief herald of the highest order of Knighthood, the Order of the Garter. Dressed in his tabard blazoned with the royal arms, he reads royal proclamations at various places in London, such as Temple Bar.

of one's own country, a widening of experience of nature, and man, and art, a keener appreciation of natural beauty, the finding of a new route for an afternoon ramble—there is both adventure and discovery in all these.

In this confused, changed and changing modern England of ours much of the past remains firmly embedded. We cannot walk abroad, in town or country, without finding many curious and interesting survivals, if we only have the knowledge to understand them aright.

Take mighty London, for instance, which in its broad expanse is a creation of the past century. The population of

Greater London has increased during that period sevenfold. The market gardens of our grandfathers are now asphalt streets. It is almost wholly a new city like Chicago and other great mushroom growths of America. But it is amazing how much of old England may still be found even in London.

It is not merely that old churches, like Westminster Abbey, still survive as they have been for centuries, or old streets, such as those which we find in the square mile known as the "City," or old institutions, like the Inns of Court or the City Companies. But there are still to be seen bits of the old life going on unchanged. The Royal procession at the opening of Parliament, the Lord Mayor's procession, and the procession of judges from the Abbey to the House of Lords at the beginning of the legal year, are pageants which have survived from the time when London was quite a small town.

The annual boat race for Doggett's Coat and Badge belongs to the days when the traveller hired a boat upon the river instead of taking a taxi

The Bank Holiday in "Happy Hampstead" is a survival of the village fair. The Beefeaters at the Tower are veritable Yeomen of the Guard of the fifteenth century. The Life Guardsman who stands mounted on his black horse in Whitehall has come from the gay Court of Charles II., the Merry Monarch. On Derby Day the amazed foreigner may still see, in the four-in-hand setting out for Epsom with the guard blowing his four-foot horn, the old stage coach of the days before railways and motors.

In his delightful book, "The London Perambulator," Mr. James Bone has the

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following passage, which will surprise many a Londoner :

In London to-day, if you search for it, you can find, worn as a regular costume, not as fancy dress, some costume of nearly every period from the reign of Henry VII. to that of Queen Victoria. The last point seems incredible, but I think it is probably understated rather than overstated. The Lord Chancellor's robes date at least from Henry VII. ; the Yeomen of the Guard from Henry VIII. ; the Blue-coat boy's costume is that of a servitor of Edward VI. ; bishops and City councillors look much the same in prints of Elizabeth's reign. I shall leave the Jameses and Charleses to the learned men to sort out such uniforms as that of the Life Guards' band, with dark blue jockey cap and long gold-braided doublet and jackboots, and the dress of many City company dignitaries, and pass to the judge's full-bottomed wig and gown of William and Mary period, the counsel's wig and gown of Queen Anne, and the beautiful costume of the Children of the Chapel Royal and girls of the Foundling Hospital. The Doggett Coat that is raced for on the Thames every year dates from George I. ; and our present Court costume and the liveries of the Mansion House foot-

men belong to the Regency or the reign of George IV. It might be a good game for amateurs of London to try who can find the greatest number of such ancient costumes still existing in London."

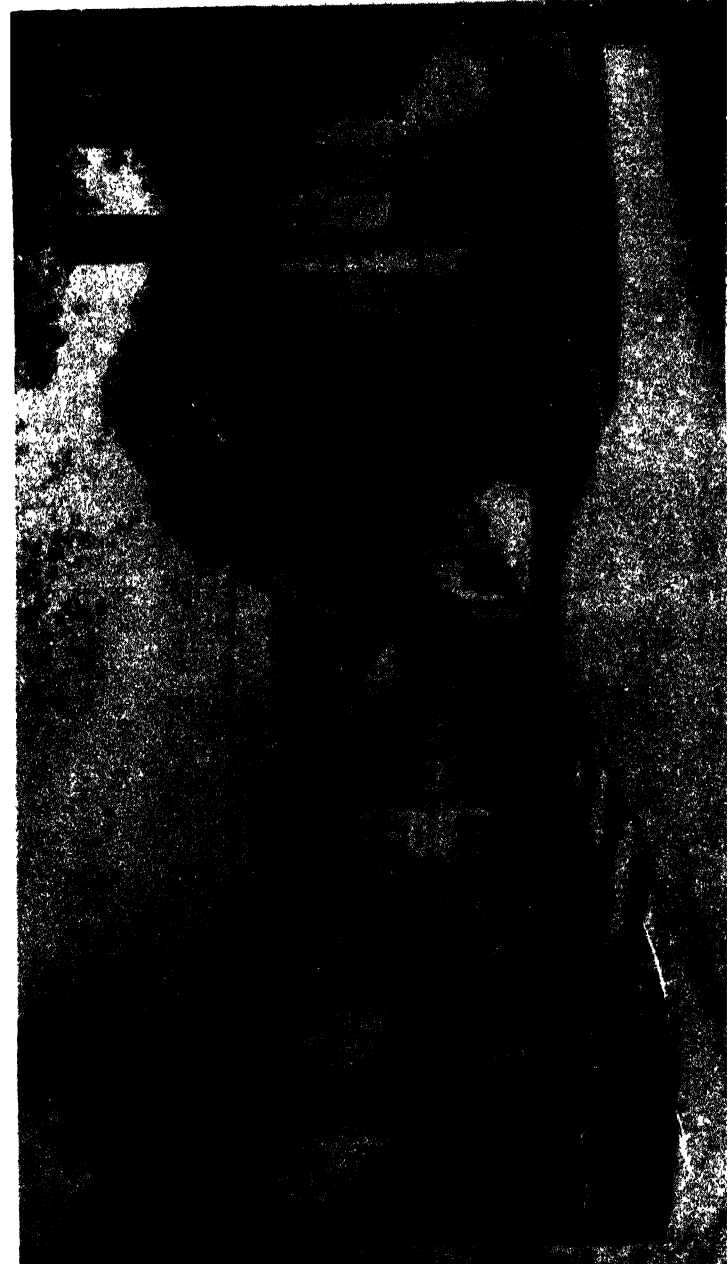
In another chapter we are to emulate Mr. Bone, and go for a pictorial ramble round the most interesting and historic parts of London town, the most fascinating of all the great cities of the world.

The rural districts, of course, where such are left, have changed less than the towns, and here the features of old England may be most clearly traced. There are inanimate objects like earthworks, and monuments like Stonehenge, that go back beyond the limits of written history ; but we are in search rather of living habits and customs, and types and modes of life. In a Norfolk village there survives a flint knapping, or chipping, industry which is said to have been carried on continuously there since the Stone Age, when our



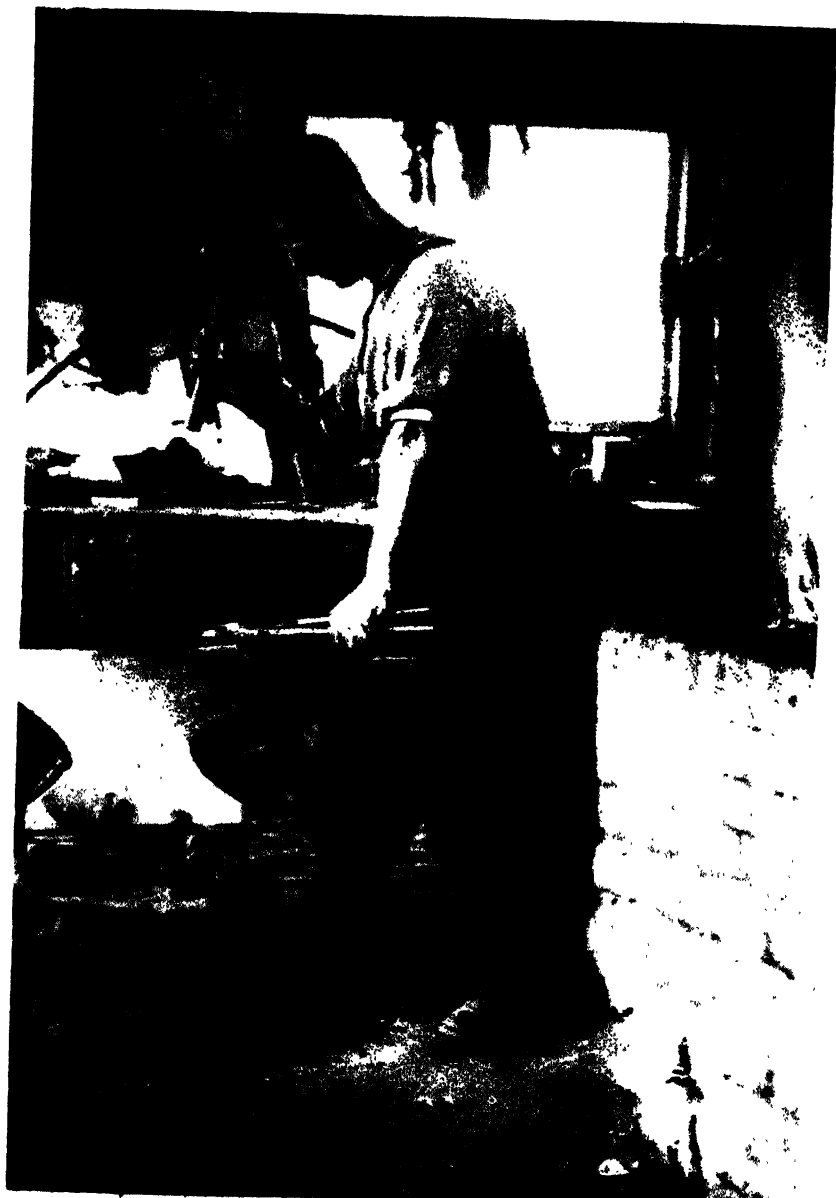
JUDGES LEAVING WESTMINSTER ABBEY FOR THE HOUSE OF LORDS

Lawyers divide the year up into terms and vacations and consider that it begins in October, when there is a service held in Westminster Abbey, attended by the judges. Afterwards they walk, in the same sorts of wigs and robes that English judges have worn for hundreds of years, to breakfast in the House of Lords.



COB WALLS AND THATCH make the cottages of Thurlestone and many another Devon village. Cob is a mixture of clay and straw, or sometimes of straw, earth and lime; it is noted for its warmth and is easier to work than stone or brick. It is an old-time

into Malwood building material but still found in the southern counties. The village is near Kingsbridge and stands beside Bigbury Bay, to the west of Prawle Point. Off the beach there is an enormous arch of rock, the "thirled" or pierced stone which gives the village its name



THE VILLAGE BLACKSMITH, leather apron and hammer complete, still shapes horseshoes and the tools of agriculture in his smithy. Most of the iron work of to-day is manufactured in the great industrial establishments of the north, but before the discovery of the coalfields wood-smelted Sussex iron supplied the majority of England's needs.

Sydney H. Nicholls



A. W. CHILDER

WELL-GROOMED DONKEYS FOR HAULING WOOD IN THE HISTORIC FOREST OF DEAN

The dwindling forests of England are one of the land's oldest features, and the foresters are a folk apart. The Royal Forest of Dean lies between Wye and Severn, and these two children are hauling timber some from its recesses by means of a donkey-team harnessed

tandem-wise. Verderers are the traditional custodians of the forest, and in its midst is the old Speckl House where they held court and made their laws; they still keep many of their ancient customs. Timber for the King's Navy used to be grown here in the old days



ENGLAND'S MOST WONDERFUL CARRIAGE : THE ROYAL STATE COACH DRIVES TO THE OPENING OF PARLIAMENT
When the King goes with the Queen to open Parliament the famous Royal coach is used. This wonderful carriage was built in 1761 and weighs four tons. There are four sea-gods, or tritons, at each corner. The two in front are made so as to seem as if they were drawing the coach along by the ropes about their necks. The pole of the coach is a cluster of lances, and the body itself represents eight palm trees joining to form the roof. The outside is all gilt and the inside scarlet velvet. The photograph was taken in Old Palace Yard.



CLOTHES OF A CENTURY AGO THAT HAVE BECOME A SYNONYM. AND YOU WILL SEE THE OXFORD AND CAMBRIDGE BOAT RACE ROWED IN TOP-HATS ; When the hounds go by with a lot of men in unusual red coats and top-hats one might wonder why anybody intending to ride at a gallop over hedge and field should dress like that. But about 1830 the ordinary thing to wear every day. In old pictures its top-hats. The jockey-caps are worn by the hunt servants

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ancestors fashioned for themselves rude arrowheads of flint.

First of all there are the men and women themselves. In the remote country places may still be recognised the original types from which the modern mixed English race has been made up. These differences show themselves in physical traits, size of limbs, build of body, shape of head and colour of hair and eyes, and also in variations of accent, dialect and custom. The tall, fair-haired, blue-eyed descendants of the Vikings may still be found north of the Humber. Farther south, on the east and south coasts and in the midlands, are the Danes, Angles, Jutes and Saxons, golden haired, more sturdily built and, as we approach the Saxons, more rugged in features. In the heart of England and towards the west we also find the Ancient Britons, whom Caesar found in possession, not unlike the Saxons in type. Then scattered throughout the country, but chiefly towards the west, in South Wales and in Cornwall, we find the dark hair and smaller stature of a still more ancient race, which preceded the others, and came originally from the Mediterranean shores.

Descendants of Viking and Saxon

All these may be found among the types represented in our illustrations. The fishermen might almost have come in a Viking raid. Grandfather on his cottage steps might have taken part in some Anglian folk-moot or village council. The ancestors of the Saxon girl among the corn came over with Hengist and Horsa. The forebear of the town crier may have been a skald chanting sagas at the feasts of the Danish pirates. The blood of the more ancient races flows in the veins of the wool-spinner of the Salisbury Plains and the village cobbler of Herefordshire.

The workers on the land and the fisher folk have changed least of all the peoples of England. You cannot apply the factory system to agriculture and fishing. The men who earn their daily bread thus are in direct contact with the elements. Their minds are stored with the lore of the

weather and of the soil, of the ways of beasts and fishes. The machine hand of the towns seeks distractions in his hours of leisure from the monotony of his daily tasks. He is quick, volatile, changeable, restless. The country man and the fisher think long, slow thoughts, and love the peace of nature. For them song, and tales of old times, and cricket on the green, and sports that call for the display of strength, and the village fair, and the maypole, and old customs like the Jack-in-the-green, or the Frolic Play of Minehead in Somerset, or the Furry Dance Song of Helston in Cornwall, with its "God bless Aunt Mary Moses," or Mop Fair of Stratford-on-Avon, where an ox is roasted whole.

Shepherd Tales of Down and Fell

The shepherd is a lonely man by habit and inclination. He is no chatterbox, but he has a retentive memory, and he can tell you tales of adventure among men and beasts upon the moors and fells and hills, which have never been written down in books, but have been handed from generation to generation. There is no better guide and companion in the country than the shepherd, whether it be of the Salisbury Plain, the South Downs, the Yorkshire Moors or the Cumberland Fells.

England was once mainly covered with forests, through which were scattered little hamlets each with its own little clearing for tillage and pasture. The forest yielded timber and firewood and game. A bold hunter might find a living there, as did Robin Hood and his merry-men. The clearings yielded bread, milk, butter, cheese, wool, and mutton and beef. The folk needed nothing from the outside world. They lived in the most complete isolation, one hamlet hardly knowing what happened in the next.

What is Left of England's Forests

Now most of the forests have been cleared and the land brought under the plough. But some remnants of the ancient forests remain. Of these the chief is the New Forest, consisting of 65,000 acres. The Forest of Dean extends over 19,871



SWAN UPPING: AN OLD ANNUAL CUSTOM ON THE THAMES!

All the swans on the Thames belong either to the King or to the Dyers' and Vintners' Companies, two of the old companies of London merchants. Every year the cygnets, or young swans, are rounded up and have marks cut in their beaks. This is no easy work, as swan parents can break your arm with a blow of their wings.



TURNING A WHOLE OX INTO ROAST BEEF IN SHAKESPEARE'S TOWN

In the old times there were no regular "holidays" for anyone, but people used to stop work on fair days or when there was any special good news and on saints' days. One of the dearest customs was to see a whole ox roasted on an enormous spit. They still do this at Stratford-on-Avon every October when Mop Fair comes round.



THE COACH-AND-FOUR COMES TO EPSOM DOWNS ON DERBY DAY

The four-in-hand coach was at the beginning of the last century the fastest public conveyance. By changing the horses it was possible to keep up an average of about 10-12 miles an hour. It took about two days to reach York from London. There are still some privately owned coaches, and the guard has a four-foot horn to blow.



ALL THE FUN OF THE FAIR AT HAMPSTEAD ON BANK HOLIDAY

It would be hard to recognise in the brazen noise of the steam organ and the gaudy whirl of the roundabout that all this is a survival of the fairs of May Pole and quarter-staff, of archery and Morris dancers. Instead of wrestling for a silver shilling one throws darts for a coconut. But there remains the spirit of the fair.

MERRIE ENGLAND

acres. Epping Forest, covering 5,542 acres, comes right up to the confines of London. Then there are the famous Tintern Woods, in Monmouth, and various woods scattered up and down the country, representing what were once great forests, like those of Arden and Sherwood. The newly-created Forestry Commission is busily engaged in increasing their number and extent.



GRANDFATHER HAS TO GUESS WHO IT IS

The old man's clothes look much better on him than would a modern mass production suit, but they are getting scarce. The hobnail boots are still worn, to be sure, but the gaiters and the breeches of corduroy are passing.

In the larger forests survive some interesting remnants of old English life. The New Forest, for example, has a population of some seven thousand, many of whom are "commoners," or small land owners with rights of pasturage for horses, cattle and pigs. Herds of shaggy little forest ponies may be seen there, and the donkeys of the Forest of Dean are well known. The forest bees yield rich honey, some of

which goes to the making of the old English mead, a heady drink, which can still be tasted there. Among the forest folk are the woodmen, verderers and charcoal burners, and those who make a living at various woodland industries, such as the making of hurdles and faggots and staves and tool handles. Wandering gypsies also love the forest.

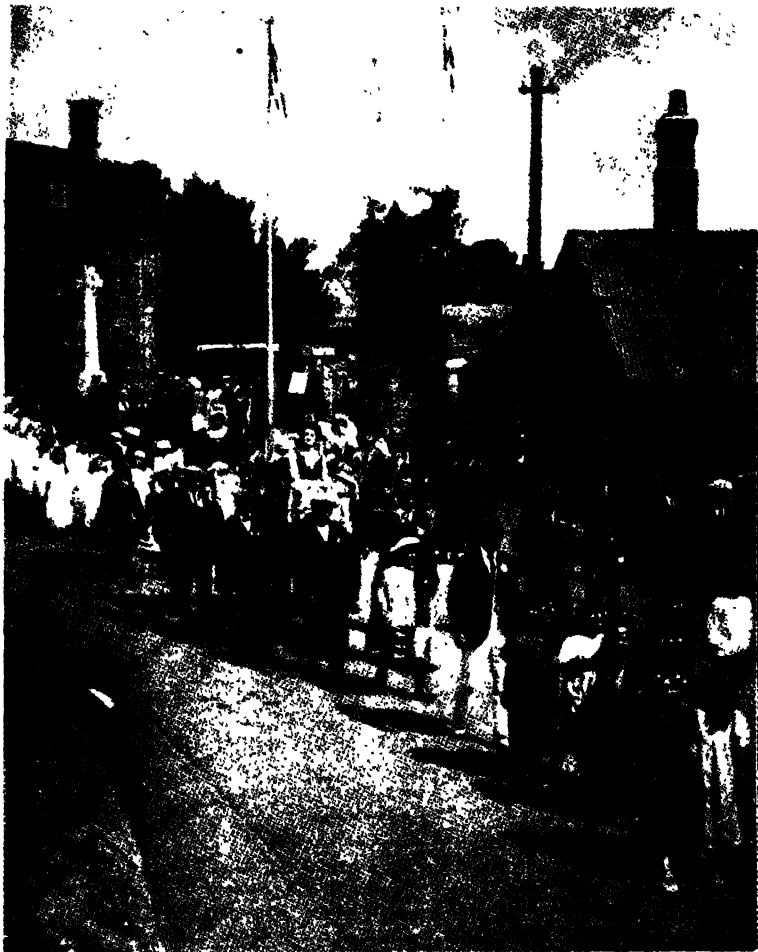
Some village industries, such as the smith's, the carpenter's and the cobbler's, are still carried on under the old conditions, and old types survive. But others, like the handloom weaver and the cross-legged tailor, have disappeared, or all but disappeared. The factory has been too much for them. The miller, too, is disappearing, and the old mills which ground the corn for a parish are mostly derelict.

In the folk-dance and Morris dance revival we have another interesting proof that Merrie England still survives.

When Tom came home from labour,

Or Ciss from milking rose,
Then merrily went the
tabou.,

And nimbly went their
toes.



THE PAGEANT OF QUEEN ELIZABETH AT CORBY FAIR

At Corby, a Northamptonshire village, about nine miles from Market Harborough, they hold a fair every twenty years. The right to do this—for fairs can only be held by right of royal warrant or by authority of Parliament—was granted the village by Queen Elizabeth as a reward for aiding her out of Rockingham Forest in a fog.

The late Cecil Sharp succeeded in snatching many of these jolly old dances from oblivion, and a band of enthusiasts is spreading the knowledge of them. Children's games are often survivals of ancient popular ceremonies and commemorations, dating from before the time of Elizabeth. "Punch and Judy" has been traced back

to an old "mystery play" about Pontius Pilate and Judas Iscariot. Mystery plays, on religious subjects, were not so called because they were "mysterious," but because they were given by a ministry, or mystery, the old name for a craft or guild.

Merrie England also survives in some of our commonest articles of food and drink.

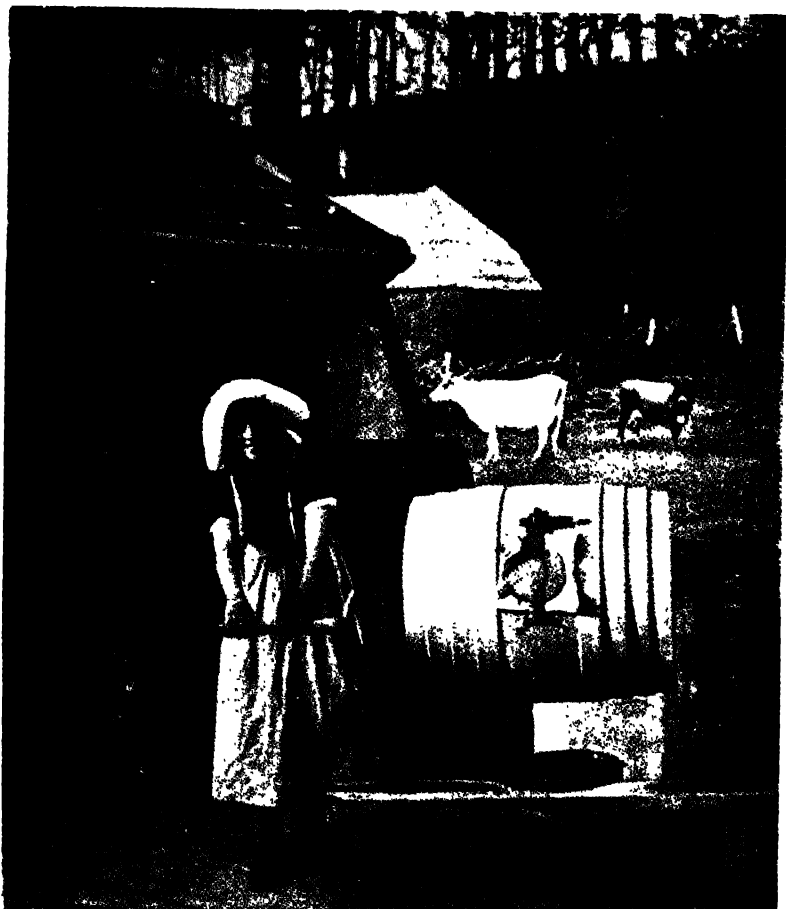


UNHURRIED SHOPPING

WORCESTERSHIRE HAMLET

A. W. Cutler

The cottage shop is fast disappearing because of the town tradesman's motor van. This one, you will see, keeps its thatched roof. Unthrashed straw is used, and a roof made thus, more than a foot thick, and so warm in winter and cool in summer, may last twenty-five years or more. Owing to the danger of fire, thatched roofs are forbidden in large towns.



MURRAY W. NICHOLS

CHURNING THE BUTTER ON AN ISLE OF WIGHT FARM

There are few more weary jobs than this. The milk is poured in and the churn sealed up, and then the dairymaid turns and turns the handle and the churn goes round perhaps for an hour or more until she feels the butter dropping about in lumps in the inside. The churn is only half filled and the temperature of the milk must be carefully watched

English fare is solid and substantial. We have little skill in, or taste for, "made up dishes." We roast, and grill, and boil, as our ancestors have done for centuries. The foreigner in London need not think he knows the English people till he has dined—at one of the taverns in the Strand or Fleet Street, where the old-fashioned compartments between table and table are still retained—off a cut from the joint

or a roast chicken or duck and green peas, with ripe Stilton or Cheshire cheese to follow.

And there is much more to be discovered, in the way of variety in good cheer, as one travels through England. The cheeses, for example, are as various as the dialects—Stilton, Cheshire, Cheddar, Wensleydale, and Caerphilly. The Herefordshire cider differs from that of Devonshire. Then



VILLAGE COBBLER AT WORK ON FACTORY-MADE SHOES

A W. Outler

Many villages once had shoemakers, but the descendants of these craftsmen are now nearly all cobblers, who do not make boots and shoes themselves. The notice on the wall says, not "maker" but "repairer." The factory turns out footwear so much more quickly and cheaply, though its work cannot equal the best hand-made articles.



IN ONE OF THE LAST VILLAGES WHERE THEY MAKE CLOTH

Till the middle of the 19th century there was a large industry in English home-spun cloth, but the machinery made it so much faster that the cottagers took to the factories and their villages became smoky towns. But at Winterslow, on Salisbury Plain, the industry has been refounded. Here is the yarn being wound.

MERRIE ENGLAND

there are local delicacies, such as Cornish pasties, Devonshire cream, Melton Mowbray pies, Bath buns, Lancashire hot-pot, Yorkshire pudding, Yorkshire relish, Worcestershire sauce, Oxford marmalade, Whitstable oysters, Yarmouth bloaters, and many others. Where can you get junket and cream and plum pudding but in England? The secret of the heather ale has been lost in Scotland, but there are still rural housewives in England who have and use the recipe for elderberry wine, and black currant wine, and raspberry vinegar. In Kent I once tasted a sillabub, a delicious concoction of cream, or milk warm from the cow, curded with wine.

There is great variety of scenery, of cultivation, of people and of customs, among the English counties. The true

traveller will want to know them all, but, no doubt, each treasures in his heart some special spot, beloved beyond all for its associations. There is a pleasant story of a gathering of commercial travellers at a Kentish inn, in the days when they made their rounds in their own carriages. They discussed which was the most beautiful road in their experience, and they agreed that each should write the name of his favourite road on a slip of paper and drop it in a hat.

When the ballot came to be examined it was found that the choice was about equally divided. Half of the travellers had voted for the road from Tonbridge to Maidstone in spring. The other half had voted for the road from Maidstone to Tonbridge in spring.



WHERE DEVONSHIRE DONKEYS CARRY THE ROYAL MAIL

A. W. Outler

Clovelly's one street is so steep that it is cut in steps and no carts are ever seen in it. The mail comes from Bideford by motor and the mail-bags are put on the donkey's back at the top of the hill. The post office is halfway down to the little harbour on Barnstaple Bay. Above the chimneys may be seen the line of the horizon where sky meets sea.

The Men of the Blow-pipe

HOW THE BORNEANS MAKE & USE THIS STRANGE WEAPON

We are to be taken to a strange land of the East in the following pages, not for a journey of exploration, but solely to learn about a wonderful weapon of the chase and tribal warfare which is used there, and to compare it with the same weapon found in other parts of the world. The land is Borneo, and the weapon is the blow-pipe. In another chapter we revisit Borneo to find out all about its interesting peoples, savage and civilized, and the nature of the beautiful country in which they live under British and Dutch rule.

IT is very dark in the forest. The tall palm and gutta-percha trees, with their interlacing branches and their masses of creepers, shut out almost all the sunlight. Down at their base the undergrowth of jungle is thick, and at times impenetrable. It needs an axe to hack one's way through the mass of vegetation. In few other places in the world is the forest so dense and forbidding as it is here, for this is the heart of Borneo.

High up in a tree a monkey begins chattering. Soon others join in. The squabble, whatever its cause, becomes a noisy one. A score of monkeys are proclaiming their grievances to the world. Suddenly two dark-skinned native youths steal noiselessly into a little clearing between the trees. Each of them carries a long wooden rod with a slight curve in its lower end. This is the famous blow-pipe of the Borneans, a deadly weapon when it is used to propel one of the poisoned darts such as the natives carry in the quivers at their waists.

The Blow-pipe in Practice

There is a moment's pause. Then a dart is slipped into the blow-pipe, the weapon is raised, aim is swiftly taken, and the chattering overhead breaks into confused cries of alarm as a monkey topples down. The Bornean hunter has secured another of the tree-folk for his "bag."

And what is this blow-pipe, or "sumpitan," to use the native name—the wonder-worker of savage devising? It is a weapon which, whether used in warfare or—as it is more commonly—in the chase, is the Bornean's typical

instrument of destruction. In such a country as his, thickly covered with forest and matted jungle, a bow and arrow would be of little service. The blow-pipe has been fashioned to provide the forest-dweller with a weapon peculiarly suited to his surroundings.

Death at Seventy Yards

For fighting, swords and spears are also employed by the native warriors, but the skill with which the blow-pipe and its deadly missile, the dart, can be utilised, makes it even more formidable. A Punan, it is stated, can kill his man at a distance of seventy yards.

The making of a sumpitan is a very interesting process. First of all, a "jagang" tree is felled. From the hard, straight-grained wood are split strips of about eight feet, this being roughly the length of the blow-pipe itself. One of these strips is then fashioned into a cylindrical form by means of an adze, the diameter being some two or three inches. But let us watch a native craftsman as he proceeds to turn out the finished article.

As one of our illustrations shows, the blow-pipe maker stands upon a platform several feet above the ground, with the wooden rod set up vertically before him. It is strongly lashed to the platform and other supports during the process of boring that follows.

This operation is accomplished by means of a long, straight iron rod, which is rather less in diameter than the bore desired for the pipe. One end of this rod is chisel-shaped with a keen edge. Making his first incision with great care, exactly



FIRST STEPS IN THE ART OF BLOW-PIPE MAKING

Spears are carried by the warriors of Borneo, and swords such as the one here serving as an adze; but their most amazing weapon is the blow-pipe, a very marvel both as made and as used. This Kayan will actually make and use one before your eyes in the following series of photographs. Here he is first cutting a length of a hard wood called "jajang."

All the Borneo photographs are by Dr. Charles Hooe.



BORING A HOLE WITH NEITHER LATHE NOR BIT NOR BRACE

The pole of jayang wood is some eight feet long, and has here been whittled to a thickness of about two to three inches. The next process is to hollow it. To do this, the Kayan stands on a platform and hammers downwards with an iron rod, while a friend pours water into the hole from a bamboo vessel in order to float out the chips.



THE CRAFTSMAN SEES THAT HIS LABOUR IS GOOD

After the blow-pipe has been bored it is cut down to its final width of an inch at the mouth-piece, tapering to three-quarters at the muzzle, and the central bore polished truly to a diameter of a third of an inch. Next the whole weapon is slightly bent, with the aid of heat, so that on looking through it only half the hole at the farther end can be seen



AT WORK ON THE SILENT, DEADLY DARTS

Finally comes the business of making the darts for the blow-pipe. These are in two portions. The piercing part is a spike of tough wood about nine inches long; and to the hinder end of this is attached a plug of hard pith, fitting the pipe exactly for some of its length and then tapering forward to lessen the air-resistance when in flight.



HOW THE IRON FOR THE BORNEO BLOW-PIPES IS FORGED

The iron for the tools used in making the blow-pipes is smelted in a charcoal fire, into which a blast of air is blown by working a sort of feather mop, like a piston, up and down in the hollow logs seen on the left. The metal is then hammered with a stone mallet on a stone anvil. These workmen are Kalabits, expert smiths like the Kayans

in the centre of the flattened end of the pole, the Bornean keeps on piercing the wood with downward blows. He turns the iron rod in his hands as he does so, and thus, inch by inch, a hollow is formed right through the tube. As the rod while being worked in this manner must be held exactly vertical, the blow-pipe maker fixes two or three forked sticks horizontally and at different levels above the platform. In these guides the metal rod slides easily up and down, and is kept in the straight line required.

In the picture at which we have been looking there is a young assistant ; to him is allotted the task of pouring water from time to time into the steadily deepening hole. In this way the little chips of wood are washed out. As a rule, the work of boring through the whole of the pipe takes about six hours' continuous labour.

The lower end of a blow-pipe is always slightly curved. This is produced by bending the pipe and binding it in position with rattan fibre for some time. The object of the curvature is to allow for the bending of the tube caused by the weight of a spear-head which is often fixed to the top. In this way the blow-pipe may be converted into a sort of bayonet.

Should the desired curvature not be secured by the means just described, the wooden tube is hung horizontally on loops, and heavy weights are then fastened to the muzzle end. When the craftsman peers through the bore and can sight only a half-circle of daylight, he knows that the precise degree of curving has been attained. He then heats the wood with torches, and when the tube has cooled he finds that it retains the curvature. Nothing now remains to be done but



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THE KAYAN GETS POISON FROM A RUBBER-LIKE TREE

A blow-pipe is deadly against small animals, and even against human foes; but this is solely due to the poison on its darts. The tree that furnishes the poison is the ipoh, more familiar under the name upas. Our Kayan has made deep cuts in the bark and is here collecting in a bamboo cup the milky-white sap that flows from the tree.



HE PREPARES THE POISON AND TIPS THE DARTS

Before use the sap of the ipoh tree must be thickened by heating over a fire, a process which leaves it a dark paste. It is then thinned down again and is now ready to tip the deadly blow-pipe darts. Many absurd legends have grown up about the poisonous upas tree, such as that it kills all life round it for a great distance.

to finish off the blow-pipe, to put the polishing touches upon it. For smoothing the rough outside the best article to use is the dried skin of the sting-ray, a sea-fish which makes its way up the rivers. An extra surface is afterwards given with the leaf of a certain shrub, this forming a good substitute for emery paper. The inside—the bore itself—is polished by means of a long piece of rattan, a fibrous cane, which is pulled to and fro through the entire length until the blow-pipe maker is satisfied that the sides of the tube are really smooth.

Without its poisoned dart, of course, the sumpitan would have but little effect, except when used as a spear. The deadly little missile is made from the tough wood of the wild sago palm, being some nine inches in length and one-eighth, or less, in diameter. At one extremity is fitted a tapering pith cylinder, an inch long, the butt end of this being exactly equal in diameter to the bore of the pipe.

The poison which is applied to the dart is obtained from the "ipoh" tree. When the tree-bark is cut a milky juice oozes therefrom, and this is collected and heated over a fire until it forms a dark brown paste. For the final application this paste is worked into a thinner consistency; then, a circular groove having been cut round the shaft of the dart, at a distance of two inches from its tip, the poison is rubbed in here and left to dry.

Such a poisoned dart as is here described is effective if used against small game. But for human beings, for deer and pig and other larger creatures, it is necessary to employ a bigger dose of the ipoh poison. For this purpose a piece of metal, usually tin, is slipped into the shaft of the dart, and the mixture spread upon its surface.

Although the tools employed by the native craftsman are rough, the blow-pipe is fashioned with considerable skill and artistry. Were this not the case it would be



TWO BORNEO MARKSMEN OUT AFTER MONKEYS

To make the blow-pipe with such primitive tools is wonderful enough, but now let us watch it in use. Light enough to be poised in one hand, it is roughly aimed while the dart is being inserted. Then comes the final aiming and—puff!—a monkey is dead. Within a range of seventy yards many of these marksmen are as accurate as a rifleman.



BACK AFTER A SUCCESSFUL DAY IN THE JUNGLE

The spoils of the chase. Bigger game than monkeys can be killed with the blow-pipe, and our instructor in the art has captured a fine young forest pig for the cooking-pot. It will be noticed that just as soldiers can fix bayonets to their rifles, so the Borneo blow pipe is given a second use by having a spear-point lashed to the muzzle end.



7° THE SAKAIS OF MALAYA HUNT WITH "SUMPITANS" Miss O. J. Hunter

Jumping now from Borneo to the neighbouring Malay peninsula, we again find the blow-pipe in use among the forest tribes; indeed, it is thought that Malays introduced the weapon to Borneo. These Sakais, however, may in their turn have taught the Malays, for they are descended from older inhabitants who were akin to Australasian peoples.



12,000 MILES FROM BORNEO: THE BLOW-PIPE IN PERU

The blow-pipe as used in the forest country of Peru east of the Andes mountains—called the "Montaña"—is hardly to be distinguished from that of Borneo, except that the poison used is curari, which paralyzes the action of the heart. The quiver in which the darts are kept, slung round the waist of the marksman, is also like that of the Kayan.

THE MEN OF THE BLOW-PIPE

impossible for the Bornean warrior or hunter to attain the extraordinary precision of aim for which he is famed.

It is interesting to note in this connexion that the Punan tribesman, who is one of the most expert users of the blow-pipe, cannot make his chosen weapon unassisted. He has no knowledge of working in metals. For the iron rod which is so necessary for the boring of the tube he has to go to his neighbour, the Kayan. At the present day the Kayans are the most skilled iron-workers in the island, and their swords and spears are rivalled only by those of the Kenyahs. Such iron as they use is mostly obtained from Malay and Chinese traders, but native ore is still smelted at some places in the far interior.

Mascots to Bring Good Hunting

When not in use, the darts are kept in a quiver made of a section of bamboo fitted with a cap. This receptacle is attached to the belt by a wooden hook. As a general rule, the darts themselves are wrapped in a squirrel skin, while tied to the quiver is a small gourd in which is carried a supply of the piths used in the propulsion of the darts.

Like so many savage people the Bornean natives are steeped in superstition. They believe in magic, in spells and charms, and accordingly there will be a special charm attached to a man's blow-pipe quiver. This charm is often dipped in the blood of an animal that has been slain, the owner believing that the virtues of his mascot are thus greatly increased.

Death-Tubes in Malaya and Peru

The fact that some of the inland tribes of Borneo were originally of Malayan stock, and also that the island was overrun by Malays centuries ago, accounts for the presence of the blow-pipe, with its poisoned dart, as a national weapon. For in the Malay States the sumpitan has been in regular use as long as history can record. It is in Perak, in the jungly hill country, that some of the aboriginal inhabitants, such as the Sakais, still roam the woods with blow-pipes in hand.

But if there is nothing extraordinary in the blow-pipe being common to the Malay States and Borneo, what shall we say when we learn that it is used by so far-distant a people as the natives of Peru, just half the earth's circumference away? Here is a seeming marvel. There can be no racial connexion between the Indians of Peru and the several tribes of inland Borneo. It is not at all likely that any communication has been held between the two peoples in past times, and yet in each country the primitive savage forest-dweller has found out the secret of the blow-pipe's power to propel a poisoned dart from its mouth.

We can but gather from this remarkable coincidence that the evolution of the blow-pipe from some earlier form of the weapon has resulted from similar conditions of life both in Borneo and in Peru. In the swampy, jungly country east of that mighty chain of mountains, the Andes, whence the tributaries of the great Amazon flow—the region known as the *Montaña*—the native Peruvian lives much the same kind of life as does his brown-skinned brother of the Punan, Klemantan, Kayan and other Bornean tribes.

Man's Meat from Nature's Poison

He hunts and faces his enemies in a dark forest world where no other weapon could possibly serve his purpose so well. And while the trees of his own land furnish the wood from which the indispensable blow-pipe is made, the Peruvian Indian has also at hand the poison with which to anoint his little darts. In place of the ipoh tree of Borneo, he resorts to a plant from which he can extract curari, or woorali, as it is sometimes termed. This poisonous substance is very deadly in its effect; it quickly causes paralysis and stops the heart's action. Like the juice of the ipoh, it is, of course, only poisonous if it finds its way into the blood directly through a wound, otherwise game killed with it would not be fit for eating. In both South America and Borneo we thus see how the savage has turned to Nature to provide him with his surest weapons.

The Desert Rangers

THE BEDUINS AS THEY ARE IN REALITY

In the task of showing the world and its peoples as they really are, it will occasionally be our duty to sweep away mistaken ideas. This chapter, which tells all about the life and character of the Beduins, is an instance. But if it teaches us to look on these desert wanderers as the reverse of heroes, there is no reason why we should forget the virtues they do possess—courage, endurance and hospitality. Here we are mainly concerned with the Beduins themselves, further chapters deal in greater detail with the desert lands over which they roam, in Arabia, Mesopotamia and Northern Africa.

THE picture of the Beduin most familiar to us is one coloured by the fancy of the poet. Who has not read "The Arab's Farewell to his Steed"? In that well-known poem the Hon Mrs Norton described the nomad of the desert as a high-souled, tender-hearted person whose affection is centred upon his horse. We have had, too, "The Beduin's Love Song," and every cinema-goer has seen on the screen that hero, the sheik of romance.

But the truth must be told. Poet, song-writer and film-producer have idealised this notorious character. In painting his portrait they have laid on the colours freely, and to those who have not met him in his native desert the Beduin cuts a noble and picturesque figure. It is when we turn from fiction to fact that we tear aside the veil. We find then that, in general, the Beduin is rather an unpleasant fellow, dirty in his habits, far from chivalrous in his treatment of enemies and despicably cruel to his horses and his camels.

In the northern area of the great deserts of the Nile one may find here

and there specimens of the Beduin in whom survive some of the finer traits of his race. These are the wealthier tribesmen, rich in stock and able to maintain a large following. But they live in villages under the rule of sheiks, and differ greatly from their poorer brethren, who pitch their tents in the wilderness and lead a wandering life.

For many centuries the Beduin has been one of the best-known features of the East. His very name in Arabic means "man of the desert," and his range is a wide one. From Arabia and Syria, his original home,

he spread over Mesopotamia and Egypt, and all along the northern coasts of Africa. At the present day he has wandered even as far afield as Persia and Turkistan. In all it is reckoned that there are some 500,000 of these desert gypsies, of whom those in Arabia and Egypt are perhaps the most widely known. Those of the former country comprise about one-seventh of the whole population, including in this estimate the territories of Irak, Palestine and Syria. How this figure is arrived at one cannot say, for all attempts to get the nomadic tribesmen into a



TRINKETS OF A DESERT WOMAN¹³

Her ornaments are usually a number of necklaces of metal chains, sometimes of silver or gold, glass beads, and the characteristic brooch which fastens her dress in front.



BEDUINS. Desert life, in spite of what is said in the imaginative stories of Arab chiefs, is not very healthy nor are the desert folk over clean. Ophthalmia and other affections of the eyes are common, and this blind Beduin is only one of the many who wander into the towns to beg with a child as guide. He is in a market-place of Tunis in Africa.



BEDUIN WOMEN when they go upon a journey are usually shut within a litter fixed upon the back of a camel. It is a Moslem practice that women shall be hidden from the public gaze, so they must travel swaying giddily to and fro on their unwieldy platform with its clumsy covering as it rocks upon the camel's hump. It is also very stuffy inside



URBISWOOD

INSIDE THE SHEIK'S TENT. A VISIT TO A TRIBE LIVING IN THE MOUNTAINS OF THE ARABIAN DESERT. In the middle of the floor is a charcoal fire, and by it, to the left, a man is seated on a low stool, possibly the sheik, surrounded by others. The sheik is on the extreme right, smoking a hookah, a sort of pipe.

in the little white cups. Much of this coffee is imported from Brazil, as the native kind, being of superior quality, is all needed for export. The sheik is on the extreme right, smoking a hookah, a sort of pipe, in which the coffee is boiled and handed round.

THE DESERT RANGERS

recent census were unsuccessful. The Beduins saw behind the census-papers the threatening figure of the tax collector, and as they have never paid tribute to any government they refused to have their heads counted.

Of the higher-class Beduins, most live in communities, each of which, as has been said, is ruled over by a sheik. It is among such that the more picturesque features of desert life are to be seen. Here are larger and better equipped tents. The sheik himself will be garbed in clothes of fine quality, while his tribesmen, in their parti-coloured robes, will make a brave show. The national dress consists of the "abba," or camel's-hair cloak—often of black with wide white stripes—beneath which is a closely fitting tunic that may be of silk or cotton, according to the owner's means. This is gathered in by a leather girdle, or a coloured sash, in which a pistol or dagger can be stuck.

How the Desert Men Dress

As headdress is worn a square of cloth—again cotton or silk—brightly hued and striped. This is doubled over the head, the two long ends falling down upon the shoulders. A notable feature of this head-gear is the twisted band of camel's hair, which is worn round the top of the head and helps to keep the cloth in position when the front part is pulled forward as a shade for the eyes.

Women's garments among the more settled tribes may also be brightly coloured; a blue, red or yellow handkerchief serves for head-covering, while the loose robe, fastening with a girdle, is striped or of a striking pattern. But out in the desert the women are drably clothed compared with their husbands. Unlike her Arabian sisters, the Beduin woman does not wear a face veil; her custom is to cover the lower portion of her face with a corner of her shawl at the approach of a stranger. But she has a feminine weakness for earrings and other trinkets, and especially, when they can be afforded, for silver bangles round arm and ankle. Most likely, too, she will wear a talisman in her

head-dress, a small transparent stone set in beads, which is supposed to act as a charm against the "evil eye."

With her brown skin, her dark, flashing eyes gazing at one from below a well-draped head-dress, and with the pleasant jingle of her silver chain-necklaces and ornaments, this daughter of the East is quite charming in her youth. But she ages too quickly, for her life is one of constant toil.

Work-a-day Life of the Womenfolk

The Beduin man leaves all the domestic duties to his womenfolk. They grind the wheat in the handmill, or pound it in the mortar. It is they who knead and bake the bread, make butter, fetch water from the wells, work at the loom and mend the tent covering. To the women also usually falls the task of rolling up the tents when camp is broken and the tribe is moving on to some fresh pasturage.

One of our pictures shows a Beduin mother carrying her baby in the manner usual among this people. The youngster, wrapped in garments of bright colours, is swung over the mother's back in a shawl. At other times it may be set astride a shoulder. As a rule the little ones are strong and healthy, for in their babyhood they are left to roll naked in the sun. As they grow up, however, numbers of them suffer from ophthalmia and other eye troubles brought on by dirt and inflammation from the sand, or by the sun's glare. In some cases total blindness follows, and then they drift into the towns to join the ranks of the beggars who are so common there.

The Beduin at Close Quarters

If he be less presentable than his more prosperous brothers of the village, the Beduin of the desert, the true nomad who shifts continually from place to place, is even more truly a descendant of Ishmael in the Bible story. Romance and colour fall away from this type the closer we get to him. Below middle stature, lean and wiry in physique, he is clad in coarse garments; his tents are of poor quality, and his horses and camels are underfed.



BEDUIN GIRLS, like this little maid of Tunisia who stands lonely watched by her very young mother, are as fond of dolls as any European child. It was the Arab conquests of the eighth century which spread her forefathers along the northern coasts of Africa, as far as Morocco, from their original home in the wilder parts of Syria and Arabia.



BABY BEDUINS, carried pick-a-back in a shawl, soon get tanned a rich, clear brown by the desert sun. So, too, do their mothers, for the Beduins are an independent folk and their womenkind seldom wear the face-veil, only covering the lower part of the features with a corner of their cloak when a man not of their own household approaches.



American Colony, Jerusalem

ONE OF THE BEDUINS OF PALESTINE WHO PREY ON TRAVELLERS

Beduin is a word derived from the Arab "Bedawin," meaning dwellers in the desert. The Beduins call themselves "the people of the tent." They are found all over Arabia up to Palestine and Syria and right across the Sahara. The horseman seen above has discarded the usual lance, but has a double-barrelled gun across his saddle.

and shamefully ill-used. With the poorest of these desert gypsies a few wretched goats are often their only live-stock.

The Beduin's treatment of his camel is far from what the "Ship of the Desert" deserves at his hands. It is true that the animal has few good points in his nature; he cannot be described as lovable. He

is sulky and refractory, and appears to be incapable of affection for his master—though this may only be the result of the treatment he receives. He is made flop down for loading and unloading poses by blows on the knees; there is no word of command, such as other draught animals learn to obey. When resting with



Donald McAlish

BEDUIN WATER-CARRIER OF AN ARABIAN ARMY

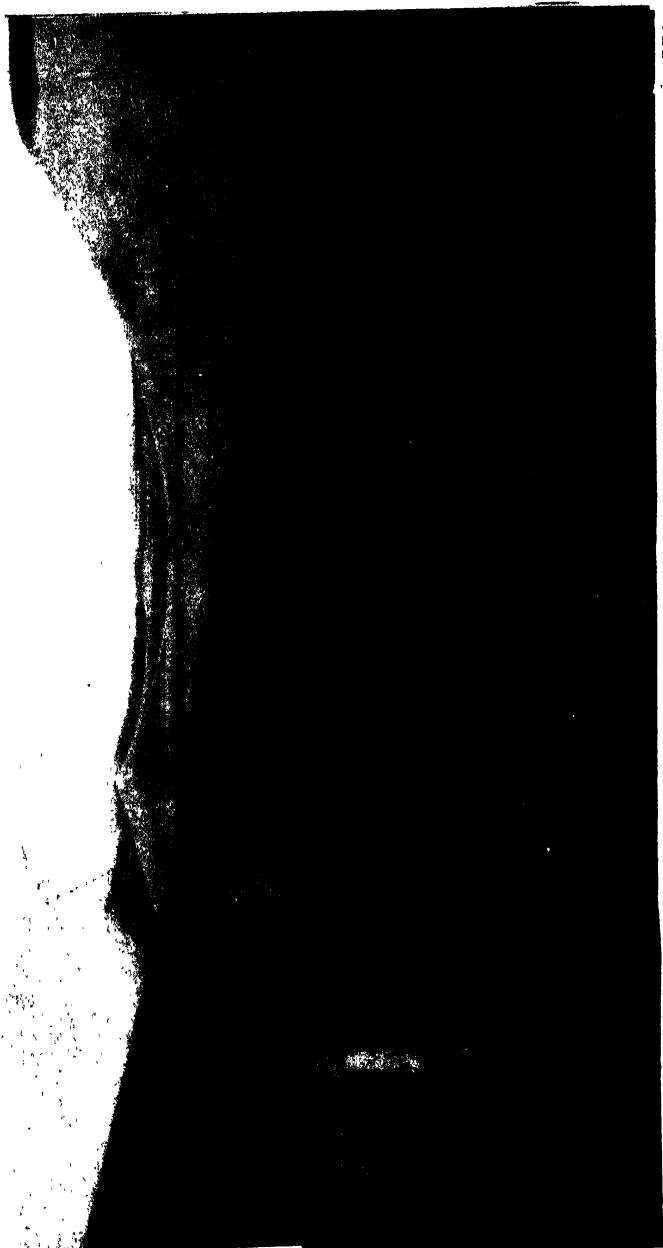
Water is the pivot on which turns the life of the Beduins in their wanderings over the desert, and they develop an extraordinary knowledge of the scanty wells. For this reason, and because of their ability to withstand great degrees of heat, they are employed as auxiliaries by the sheiks and sultans of Arabia to carry water for their regular troops

heavy loads on his back, and when taking his food, the ill-fitting framework on which his burden is piled is not removed.

On the other hand he is quite indispensable to his master, for he can travel far in a waterless region and can feed on the thorny plants that grow in the sand. His eyes are well protected from the sun by the thick upper eyelids with which he

is provided, and when the fierce simoon wind rages across the waste he can close his nostrils to it and the blown sand particles

A sand-storm in the desert is one of the terrors of the nomad's life. When it breaks, the camels crouch down with their backs to it, the travellers seek shelter within tent or other covering, and the women who are fortunate enough to be in



DESERT TWILIGHT. a glory of colour, does not last beyond a few seconds; soon after, the day's fierce heat is radiated away through the clear, dry air, and the warmth of a fire is grateful. It is through such country that the Beduins wander with their flocks and herds from camp to camp, for the pasturage is scant and often gives out in twelve days. Indeed, the hard life of the desert is to-day driving many of them coastwards to the cities, where they soon lose their good qualities and mingle with the lower classes of the population.



OVER THE SAHARA—the sandy parts that is, for much of it is rocky—the wind blows the desert into huge dunes. In a storm it sweeps across these with a roaring noise and all the air is choked with particles of sand. In the lower photograph are two of the litters in which women ride, one with the hood drawn back to let out the rider. E.N.A

THE DESERT RANGERS

litters draw the cloth screens tightly around these for protection. To face the rushing wind, which brings along with it minute grains of sand, is a terrible experience. The Beduin's skin, hardened by exposure and screened by his cloak from the full force of the blast, enables him to bear it; but a European, less accustomed to the elements, will come through the ordeal with his face badly cut and bleeding.

Shepherd and Robber by Turns

From time immemorial the Beduin has been a herdsman and a shepherd. It is the necessity of finding fresh pasturage for his flock that compels him to move from one spot to another. He will pitch his tent in some oasis in the desert, with its water-wells, until the scanty herbage has been exhausted; then the camp is broken and the journey onward is continued.

But such a peaceable existence as this has never satisfied the restless wanderer. The stern struggle for existence, and ever-ready opportunity, have made him an outlaw, a highwayman of the desert. To how many travellers and caravans has not the sudden cry of "Beduins" brought terror! The plundering of a caravan is a fierce joy to the Beduin. With rifle, lance and yataghan he descends upon his victims, and woe betide the trader who is not strong enough to beat off the marauders.

- Why Caravans are Looted

The Beduin on a foray is an enemy to be feared. He is merciless in the treatment of his captives and the ransom he extorts is heavy. The Arabs have a proverb which runs: "Entertain a Beduin and he will steal your clothes." So powerful are these marauding bands that they will levy toll even on the safe conduct of pilgrimages to Mecca. They regard the looting of caravans and travellers, indeed, in an original light—namely, as the equivalent to the taxes and customs that are exacted in civilized countries. "The land is ours," they argue, "and if you trespass on it you must pay us compensation."

If, however, traveller or trader can show anything in the nature of a permit to enter

the territory dominated by a tribe, such a document is generally recognised and respected. A permit of this kind can be purchased from a sheik, who will place some of his followers at the disposal of the travellers and thus pass them on from tribe to tribe across the desert.

Side by side with this lawlessness among Beduins there runs a regard for the laws of hospitality that is almost sacred. They are Mahomedans by religion, and the stranger who has eaten of their salt is safe from molestation. Here is a picture of a sheik entertaining his guests.

The Beduin camp has been pitched at an oasis. Outside the tent of their chief a little courtyard has been railed off with a hedge of brushwood. A fire blazes in the centre of this enclosure, partly for illumination, as the tent is open on this side, and partly for boiling the water. Several of the womenfolk hasten to and fro, busy on the preparation of the coming meal. On the other side of the hedge are to be seen the dark figures of the kneeling camels.

Supper in the Tent of a Sheik

The company gathered in the tent squats upon the mats and begins the meal, a mixture of meat, flour and hot oil, the bowl in which it is served being passed from hand to hand. An earthenware goblet of water makes the circuit of the tent in the same way, and more than one guest, distrustful of the purity of the well water, pulls a corner of his skirt over the mouth of the jar to filter the liquid as he drinks. Rice is a favourite dish, and, of course, there are dates and some sweetmeats, for our host is a man of position.

As an accompaniment to the feasting one of the sheik's retinue, who enjoys a reputation as a flute-player, performs on his instrument. The chief guest—we will assume that he is a European—does his best to converse with his host, and is conscious occasionally of subdued laughter from the screened-off portion of the tent in which the women have been placed. The more curious of these cannot be restrained from peeping at times over the screen to gaze upon the stranger.



SWINGING A GOATSKIN OF MILK TO FORM BUTTER

In page 57 is seen an English dairymaid churning butter. Compare that illustration with this, in which the same process is going on, but in the original way. Nomads carry all liquids in skins, and it was probably by accident that a horseman found one day that his milk had been jolted into butter. The Beduins still keep to much the same method.

Then, while hookahs and cigarettes are lit, coffee is served, a special token of friendship. It is coffee freshly ground and made over a charcoal fire; moreover, it is thickly sugared and flavoured with otto of rose scent. During the evening, to add to the general comfort, a bowl is handed round in which are some live coals sprinkled with fragrant incense. Each of

the company takes a good sniff at this as he passes it on

With more pleasant converse and entertainment the evening slips away. The various guests make their salutations and depart; blankets are spread upon the tent floors, and soon the whole encampment, except for the watchers posted on the outskirts, is wrapped in sleep.



ARAB CHILDHOOD does not last very long, and for the girls it ends even sooner than for boys. At the age of thirteen or fourteen the Beduin girl above will be accounted grown-up and a husband will have been found for her. But while she is yet in the play-time of her life she makes the very utmost of it, as her cheerful smile suggests



BEDUIN MOTHERS, though they keep bright wrappings for their babies, often leave them unclothed. It is a common sight in an encampment to see dusky-skinned infants on their bare backs in the sand left to kick in the sun. Notice the chains of metal trinkets that clash at every movement, and the number of different colours and patterns worn.



AMERICA'S OLDEST RUIN: "THE GATEWAY OF THE SUN"

Tiahuanaco, close to Lake Titicaca in Bolivia, was one of the centres of that mysterious folk who came before the Incas, and seemed to play with masses of rock as easily as modern man with bricks. Here still stands this solid stone gateway, carved with the Sun God and his worshippers; but some disaster seems to have interrupted the work



G. M. Dyott

FAMOUS "STONE OF TWELVE ANGLES" IN CUZCO

At Cuzco, too, is found stonework of the "pre-Incas," as the race is called for lack of its real name. These foundations, on which Incas and Spaniards afterwards built their own houses, are made up of huge blocks each cut with stone tools to fit its own particular place. Thus the biggest block on the left has no fewer than 12 angles.

The Land of the Incas

THROUGH THE HISTORIC HIGHLANDS OF BOLIVIA & PERU

There are few chapters in the story of mankind more interesting than that of the rise of the Inca empire in the high mountain valleys of the Andes of South America. How the natives of these wind-swept highlands during the "middle ages" of Europe built up their wonderful empire, presided over by the Inca, who was supposed to be a god as well as a king, is still a mystery. Bolivia and that part of Peru where the Incas flourished are barren and dreary lands to-day, but the mighty peaks of the Andes, in their ever-changing colours from dawn to dusk, give to the country a grandeur all its own. My interest in the vanished Inca empire drew me to those lands just before the Great War, and I could write a great deal about their antiquities, but here we are to be told chiefly about the country and its natives as they are now.

ONE of the most romantic conquests too, had been won by force of arms, the in the world's history is that of invaders crushing before them a civilization Peru by the Spaniards. Pizarro, that had already reached a pitch as the "Conquistador," following the example high as theirs, perhaps higher.

of Cortés in Mexico, flung himself with a small following of soldiers upon the great empire of the Incas and became its master. This amazing exploit took place in 1532, in a century when every fresh discovery in the New World was stirring men's minds and impelling them to voyages and expeditions of the most daring nature.

Romantic as was that overthrow of a mighty and well-organized American-Indian kingdom, the rise of the Incas themselves is no less wonderful. The empire they had built up was not many centuries old. It,



89 BRITISH MUSEUM
PORTRAIT POTTERY OF NORTH PERU

He must have been a humorous fellow, the potter who fashioned this water-jar in the form of a winking bogey-man, at Truxillo in Peru, some 2,000 years ago

As a matter of fact, there had been many centres of civilization in that part of South America. But of the history of these we know very little. All that remains to bear witness to their existence is the ruins of wonderful cities and buildings, the construction of which must have called for exceptional skill in architecture and mechanics. It is clear also, from the finely wrought pottery that has been found, that these ancient peoples possessed no little artistic ability.

But who were these Inca Indians, the empire-makers of the New

THE LAND OF THE INCAS



A GOD OF HIS FOREFATHERS

The stone is an idol, many hundreds of years older than the Incas; the man is an Aymará. The resemblance between the two faces shows that the blood of the old wonder-workers still remains

World? From what quarter did they come? It is necessary for our purpose that we should know something about them before we turn to consider the Peru of the present time. We find, however, that history is not able to answer fully these two questions. All it can say is that this warlike people were a branch of a

large tribe known as the Aymará Indians. The Aymarás lived in the mountain plateaux of the great Andes range, while their brothers, the Quichuas, settled in the warmer valleys to the north-west. That these two great Indian families were closely allied we know from the fact that their languages are so nearly alike. The difference is little more than one of dialect.

Marching by degrees, it is thought, from the southward, the Incas subdued one state after another, until they had laid the foundations of their vast empire. What is specially important to note is that, although from the first they were a military power, they succeeded in developing a civilization which ranks among the highest achievements of the American-Indian race. They were engineers who could tunnel the towering mountains and fling bridges across great gorges; they were road-makers whose work was enduring; they were tireless cultivators; and they were builders whose genius is still a matter for wonder and admiration.

When we read the story of the Spanish conquest of Peru we have wonderful pictures given us of the beautiful creations of the Incas. There was, for instance, the Golden Temple of the Sun at Cuzco, their capital. The walls of this building were covered with thin plates of gold; its water-pipes were of silver; and in the gardens were to be seen animals and insects modelled in gold and silver. With such a lavish display of these precious metals it comes as a shock to learn that the roof of the temple was merely thatched with maize straw!

The political and social systems of the Inca rule were no less remarkable. The Inca who occupied the throne was both king and god to his people. His person was sacred. And just as the rays of the sun, which he personified, reached out to every corner, so did his influence extend to every man and woman in the kingdom.

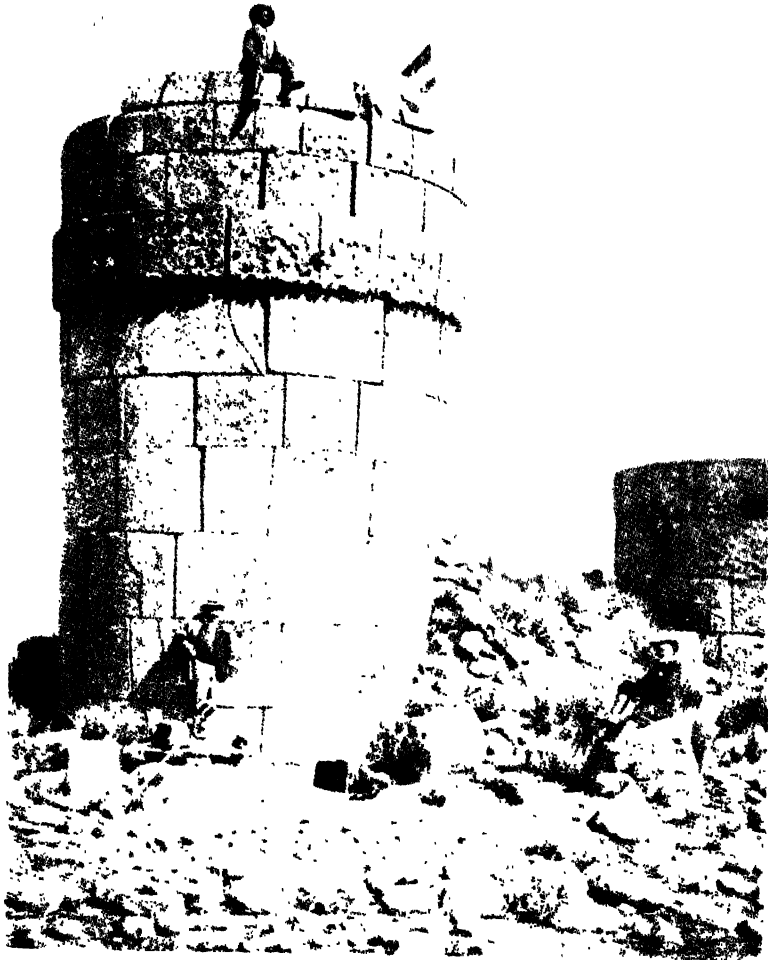
No account of the land of the Incas would be complete without mention of the remarkable ruins of Machu Picchu, which were discovered within recent years. Situated in the mountains to the north-west

THE LAND OF THE INCAS

of Cuzco, in a canyon through which flows the Urubamba River, the remains of this ancient fortress-city rank among the wonders of the New World. On this rocky ridge, it is believed, where are to be seen stone terraces and the remnants

of granite temples, palaces and houses, was the home of the great people from whom the Incas sprang.

The ruins are perched high up on a spur of the mountain, Machu Picchu, which has given them its name. When



QUEER DWELLING WHERE THE INCAS SLEPT ABOVE THEIR DEAD
Here we see one of the "chulpas," or ancient Inca houses, which are found in Bolivia. Windowless, and built of beautifully fitting hewn stones, it has ledges inside on which the inhabitants slept all huddled together for warmth, while in the ground beneath were buried their dead ancestors. This first caused them to be mistaken for tombs



BENEATH THE STEEP BLACK CRAG OF HUAYNA PICCHU—

The gigantic remains of old civilizations that make a wonderland of Peru and Bolivia do not all belong to the Incas, who were the latest comers. It is their name which is so familiar to us because they ruled the empire found and conquered by the Spaniards. But the Incas themselves were invaders, and though they built finely, their forerunners were more marvellous still.

rediscovered—for their existence had been known vaguely in the past—by a party of American scientists, a great part of them had been overgrown by jungle. How extensive was this ancient city, lying beneath the black, towering height of Huayna Picchu, can be gathered from the wonderful picture of it that is shown in this page.

Let us now skip the centuries—centuries of oppression and warfare and struggles for independence—and come

down to the Peru of to-day. What, then, is this vast country like, this one-time American-Indian empire which even included within its borders most of what is now the state of Bolivia?

The land in which this wonderful civilization of the Incas bloomed and decayed has been styled "The Roof of South America." Its own people speak of Central Peru as the "Sierra," which is a Spanish word to describe a mountain ridge, but first and still used for a saw—



National Geographic Society, Washington, U.S.A.

—STANDS THE TOWN WHENCE THE INCAS MAY HAVE COME

They probably first came from the south, but some think that this amazing fortress-town of Machu Picchu, north-west of Cuzco, is the place from which they at last descended on to the coast. It stands at a giddy height on a ridge overlooking the Urubamba cañon; steps cut from the solid rock climb about it, and the hillside, as may be seen, is terraced into fields.

and indeed the Andean summits in Peru do suggest at a distance the mighty teeth of some fabulous saw.

Between the main ranges of the Andes are deep V-shaped gorges, that have been hollowed out by the many swift-rushing rivers which empty themselves into the mighty Amazon. The scenery in general is bleak and monotonous. On these mountain tablelands, girt in by snow-clad peaks and swept by bitter winds, there is nothing but "ichu" grass and

scanty herbage for the flocks of llamas and sheep that feed there. Only in the more sheltered villages of this treeless waste—for trees are almost as great a rarity in the landscape of Central Peru as they are in Shetland or Iceland—does the soil yield a small harvest of maize and potatoes. Any attempt at agriculture is mostly carried on in the narrow ravines through which the rivers swirl, the great depth of these valleys making them almost tropical.

THE LAND OF THE INCAS

What is of particular interest is the fact that the Indians who inhabit these mountain plateaux are more nearly the direct descendants of the old Inca race than are any of the other tribes. In the Lake Titicaca district of Bolivia they are still known as Aymarás, but in Peru the

Indian highlanders are the Quichuas. Brownish in colour, with straight black hair, the latter have short and broad faces, something similar to the Eskimo type. Quichuas are a lean, hardy people, and owing to their having had to carry heavy burdens for generations they have



G. M. Dyott

SILVER SPOONS AS A HAIR ORNAMENT AMONG THE QUICHUAS

Two tribes of Indians inhabit the high tablelands of Bolivia, about 12,000 feet above the sea—the Aymarás and Quichuas. The gaping mouth of this old Quichua woman means that at such altitudes enough of the rarefied air cannot be breathed by inhaling only through the nose. Her warm, homespun garments are made of llama fleece.



RUDE HOME OF THE BOLIVIAN INDIANS

As a contrast to the marvellously built, though narrow, quarters of the ancient Bolivians, compare this squalid beehive home of mud daubed on wattle, built by the inhabitants of to-day. They are a savage folk, dulled by their habit of chewing the coca leaves, from which cocaine is made, and not nearly so well off as they were under Inca rule

developed in the muscles of shoulder and back and in the calves of the legs. Their arms are not so strong and are their weakest point.

In disposition the Quichua of the Andean highlands resembles the mountaineer of other countries. He is a silent, even morose man, with a vacancy of expression that does not bespeak much intelligence. He is a pleasant enough fellow to meet, however, according to travellers' reports, for he is patient and reasonably industrious, and he is rarely inclined to be insolent or offensive. It is possible that the habit acquired by the Quichuas of chewing the coca leaf, from which the

drug cocaine is obtained, together with their weakness for strong liquor, has made them as dull and slothful as they certainly appear to be.

With most of the Indians the typical garment is the "poncho." This is a narrow blanket, often strikingly coloured, with a slit in the middle through which the head passes. For head-gear close-fitting woollen caps, are the regular thing, over these being worn large felt hats with the brims upturned in front. Short, warm trousers are worn, for the Peruvian of the mountains cannot go lightly clad in his bleak climate. And it is the fashion to wear white under-pants which come

THE LAND OF THE INCAS

about four inches farther down the leg than the trousers, the back of each trouser leg being slit and rounded off to show still more of the white pants. You can tell what village an Indian is from by the size of the slit and the manner of rounding the corners.

Reversible Hats for Rain and Shine

The native cloth of Peru is woven from the fleece of the llama, the "camel" of South America. This useful animal is valued both as a beast of burden and as a wool-producing creature. The alpaca, which is a cousin of the llama, is noted for yielding the softest fleece in the world. With the yarn which they spin the Quichua women make heavy woollen shawls, among other articles of apparel. Even more than the men, they are heavily clothed, wearing thick petticoats and skirts. The most distinctive feature of their dress, perhaps, is the reversible "pancake" hat, fashioned of straw; this is covered on one side with a coarse woollen material which is as near to being rainproof as is possible, and on the other—the fair-weather side—with gaudy tinsel and velveteen.

One old Inca custom that survives to this day is the wearing of tassels and fringes on both sides of the head-dress. The first Inca ruler, it is said, decreed that this distinguishing mark should be borne throughout the Empire, the different colours used enabling his officials to know at once to which tribe any Indians belonged.

A Walk through the Streets of Cuzco

Take a peep now at Cuzco, the old seat of the Inca kingdom and the most ancient city in South America. It is a strange mixture of past and present. Here are street cars, drawn by inules, passing through the streets, with shops on either hand and—in the Plaza of San Francisco—a busy market-place. Here are telephones, electric lights and picture houses and theatres, and among all these modern improvements are the ancient stone buildings erected by the Incas and

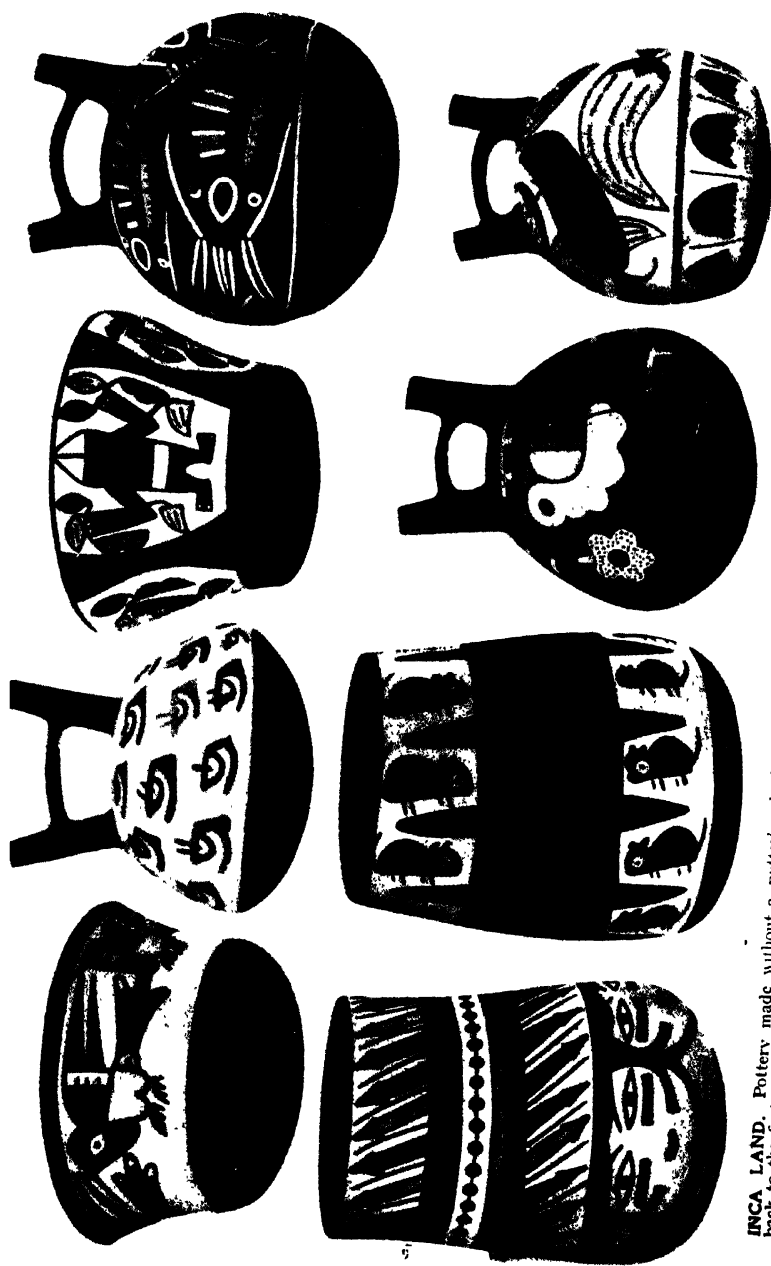
adapted by the Spaniards. It is a wonderful tribute to the solidity of the work of those old-time masons that so many of their palaces and houses remain to this day almost intact.

The population of the city is, of course, Indian and Spanish. Although there has been a constant fusion of the two races, a large proportion of the people appears to be of the pure Indian stock. Every day hundreds come in from outlying villages, for Cuzco is the great market for all. So one will see herds of llamas pacing sedately along the thoroughfares, laden with their sacks of potatoes and other agricultural produce. Some of the natives who accompany them will be dressed in a mixture of European and Indian clothes; others will be noticeable for their broad-fringed "ponchos," bright in colour, their knitted woollen caps with tasselled tops and ear-flaps, and their sandals in place of boots.

Capitals of Past and Present

The streets of the shopkeepers in Cuzco are arranged much in the same way as they were in Merrie England of the past. Tailors, sellers of hats, saddles, ropes, musical instruments and so on, all congregate in their respective quarters. And here, too, in the variety of wares offered one sees again the strange contrast of old and new. Side by side with articles of native manufacture are the cheap imported goods from the factories of Europe and the United States.

While Cuzco is the former capital of Peru, the present capital is Lima, originally "the City of the Kings," founded by Pizarro. The capital lies in the valley of the River Rimac, with the majestic Andes at its back. It is in such coastal cities and towns as this that one experiences the best of the Peruvian climate. The middle of the day is hot, but the mornings, evenings and nights are pleasantly warm. The City of the Kings has had an eventful history, one of revolution, siege and earthquake. From all these it has recovered, to display itself in greater strength, richness and beauty than before.



INCA LAND. Pottery made without a potter's wheel, and dating back to the first centuries of our era, is a startling proof of ancient Peruvian civilization. In a hot land water-jars must have narrow spouts to prevent evaporation, but to make pouring easier a second

was added by which air might enter while water flowed out. Among the decorations birds, crabs, fish, pepper-pods, and mice may easily be picked out. The quaint little human figure is holding pepper-pods, and the object on the lower left-hand goblet is a centipede, with faces beneath



PERILOUS CROSSING OF A PERUVIAN RIVER

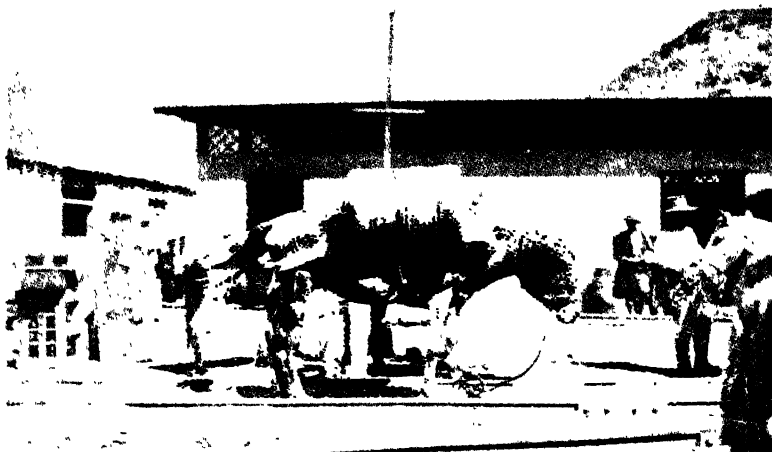
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East of the Andes is one of the wettest countries in the world, west of them it rains about once in twenty years, but the streams which come down from the mountains are used for irrigation. However, they run in steep-sided channels, which make bridge-building difficult, so one often sees them crossed by a chair travelling on a cable.



OVER THE WORLD'S HIGHEST PASS ON THE CENTRAL RAILWAY

Peru has one of the most remarkable railways in the world. It starts on the coast at Callao, goes through Lima, ascends 15,865 feet in less than 100 miles, splits, and runs north to Cerro de Pasco and south to Huancayo. There are 67 bridges and 65 tunnels. Here the train is higher above the sea than the top of Mont Blanc.



HOW THEY TRICK THE MULES IN PERU

Mules are intelligent and have wills of their own, and in Peru, where thousands of them are used for transporting goods over the mountain trails, it is only by a trick that the more obstinate can be loaded. The sight of the heavy burden they must carry is enough to make them shy, so before being led to it they are blindfolded



DROVE OF BOLIVIAN LLAMAS USED AS PACK ANIMALS

In the mountain regions of western South America live a class of animals found nowhere else in the world. About the size of a very big sheep, with a long neck, they are related to the camel, but have no hump. In the wild state they are called vicuñas and guanacos, while the more familiar names, llama and alpaca, are used for domesticated breeds.



BOLIVIAN INDIANS have actually become less civilized in many ways since their conquest by the Spaniards. In name, at least, they are Christians, but their feast days, which they celebrate in these stiff skin breastplates and strange hooped hats, are more like ceremonies

in honour, say, of the God of Sun, Rain and Thunder seen in page 88; and as the day wears on they become wilder and wilder. Fashion must be obeyed as strictly as with Europeans, and the trousers are always worn split behind so as to show some of the white drawers beneath.



THE AYMARAS, with their sad, gentle manners and their fondness for brightly striped ponchos, or blanket-like cloaks, have hardly altered at all since the days when the Incas ruled in Cuzco. And ancient Inca walls, such as the one by which these two potters are resting, still remain to make Cuzco itself a wonder-city of the past.



OPEN-AIR CLOTHING STALL IN A PLAZA OF LIMA

Cuzco of the Incas we have visited—here we are in Lima, Francisco Pizarro's new capital of Peru. It lies about seven miles from its port, Callao, on the Pacific Ocean, and has the first ranges of the Andes for a background. The population, which includes negroes, Chinese and native Indians as well as Spaniards, is about 150,000.

From the peoples of the highlands of the Andes and the Spanish settlements we may turn for a brief glance at the other inhabitants of Peru and Bolivia, though they have little to do with the Incas.

Those natives whom we have been considering live on the slopes and in the valleys on the western side of the Andes. This vast area between the mountains and the coast is like a desert—rocky, barren and sparsely populated. Very uninviting it must have seemed to the early voyagers, to the Conquistadors especially, when they first sighted its forbidding outline.

But on the eastern side of the mighty mountain range the country takes on a far different aspect. Stretching away to the rivers that make their course through the Brazilian valleys is the wide Montaña, a

great plain thickly covered by a tropical and trackless forest. For the most part the Indian tribes who are found in its depths are a primitive and savage people. There is evidence that they felt the influence of the Incas, but their country is very different from Inca-land and no great civilization could ever have arisen there.

Such a people as the Aguarunas of the Marañon are typical of the low state to which the forest Indians have fallen. They exist mainly by hunting, for they have little knowledge of agriculture; they use poisoned arrows in their tribal fights, and their religion is of a debased nature.

This extensive region of the Montaña is rich in rubber. As a consequence of this discovery many of the Indians have been impressed into service by the white and

THE LAND OF THE INCAS

half-breed traders. But for the most part the natives are a shy and secretive folk. They retreat farther and farther into the heart of their forests, where their bows and arrows, or their primitive blowpipes with their poisoned darts, provide them with the means to live. For houses these people, like some of the Bolivian Indians, build squalid huts of wattle and mud.

Since the waterways here, as well as throughout Peru, are the main roads of the country, the forest Indians are expert

with the canoe. And here again we learn how the incongruous will arise through the sudden clash of East and West

Not so long ago the members of an American scientific expedition who were exploring the Amazon came upon a native in a roughly made canoe which was fitted with a petrol motor! The owner was a Conebo Indian engaged in the rubber industry, but whence he obtained the engine, or how he had learned to use it, they were unable to discover



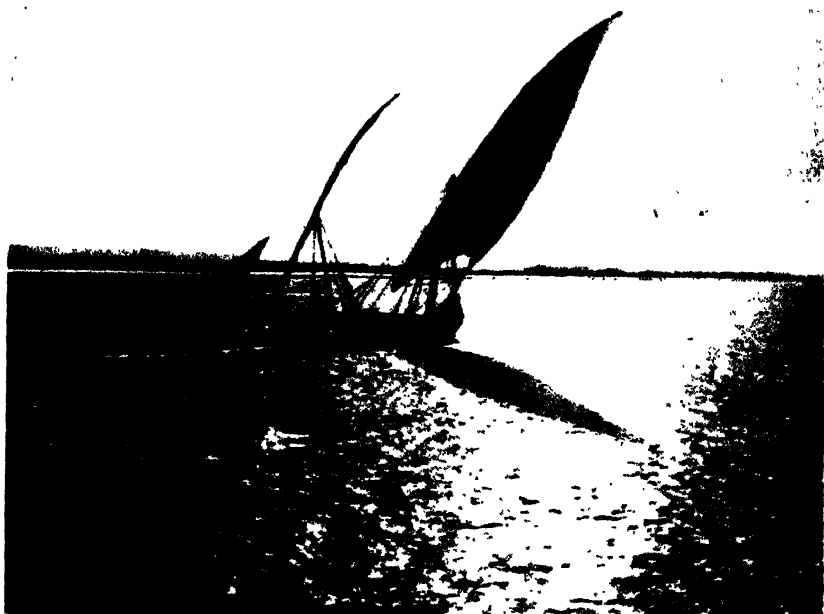
103 PANNIER-LADEN DONKEY OF A LIMA FRUIT-SELLER

Lima has just been called the "new capital of Peru," yet it is the oldest existing capital in South America, founded in 1535 under the name of "The City of the Kings." In its streets the fruit-seller is a familiar sight, with his donkey bearing the produce of the valley of the River Rimac, which gives its name in a corrupted form to the town



Metropolitan Museum, New York

BOATS. These are not modern toys, but models found in an Egyptian tomb 4,000 years old. It was believed that by the use of magic they would serve their owner, a royal steward, in the next world. Above, reed boats with a seine-net; below, the steward's ship with kitchen-tender alongside. The interesting point is that craft almost exactly like these are still in use to-day.



DAHABIYAHS AND GYASSAS are the most familiar of Nile craft. The dahabiyah in the upper photograph is a luxurious passenger-boat, plying usually between Cairo and Luxor; rowed down-stream and sailed up, it will only run before the wind. The gyassa below has a keel and can tack. Both are built of acacia and sycamore wood



Page 106 Taylor

MAN'S FIRST IDEA OF A WOODEN BOAT: FOLLOWING A TREE TRUNK ON THE NIGER

Perhaps it was a drowning savage, before history began, who clutched at a floating branch and first conceived the idea of supporting himself in the water. Tree-trunks floating down rivers certainly gave him two of the ideas from which all boats began the raft and the dug-out canoe. On the River Niger great tree-stems are still hollowed out by burning and then trimmed with some form of adze. In the following pages the history of boat-building unfolds itself in photographs of craft actually built to-day by men in various states of civilization.



Men & Their Boats

HOW THEY NAVIGATE RIVER, LAKE AND SEA

We are less concerned here with things for their own sake than with things as they illustrate life and progress. This little attempt is made to tell the history of boat-building, but rather to present a pictorial record of the strangely different craft that are being steered upon the waters of the world to-day and to suggest why the boats of different races vary in character. Yet to me there are few things more interesting than to find a discovered relic of ancient times illustrating and explaining a modern practice and so I have not hesitated to include the first colour-plate of the series. Here we see two models of Nile-going vessels found in an Egyptian tomb 4,000 years old. One of them is built of reeds. Does it not give a thrill of discovery to learn that the "balsas," which I myself have seen on the waters of Lake Titicaca and the River Desaguadero in Bolivia, are built on the same model?

SOME few years ago there sailed into Ramsgate Harbour the quaintest little ship imaginable, the "Tilikum." She was only thirty feet long, yet had three masts; she was very narrow and drew only twenty inches of water. To look at her, one would have thought her fit only for river or lake, yet in her a crew of two men, Captain Voss and Mr. Luxton, had sailed 40,000 miles, and travelled nearly all round the globe.

Leaving Vancouver in May, 1921, they crossed the whole of the Pacific to Australia. They next visited New Zealand and thence made their way to Cape Town, South Africa. From Cape Town they crossed the Atlantic to Pernambuco on the South American coast, and then, recrossing the Atlantic in an easterly direction, by way of the Azores Islands, safely reached the shores of England. It was a most wonderful feat of seamanship, but what makes it so interesting is the fact that this little two-and-a-half-ton boat was actually nothing but a dug-out—that is, a canoe hollowed from a single huge cedar log by the native Indians of Alaska.

Robinson Crusoe's Canoe

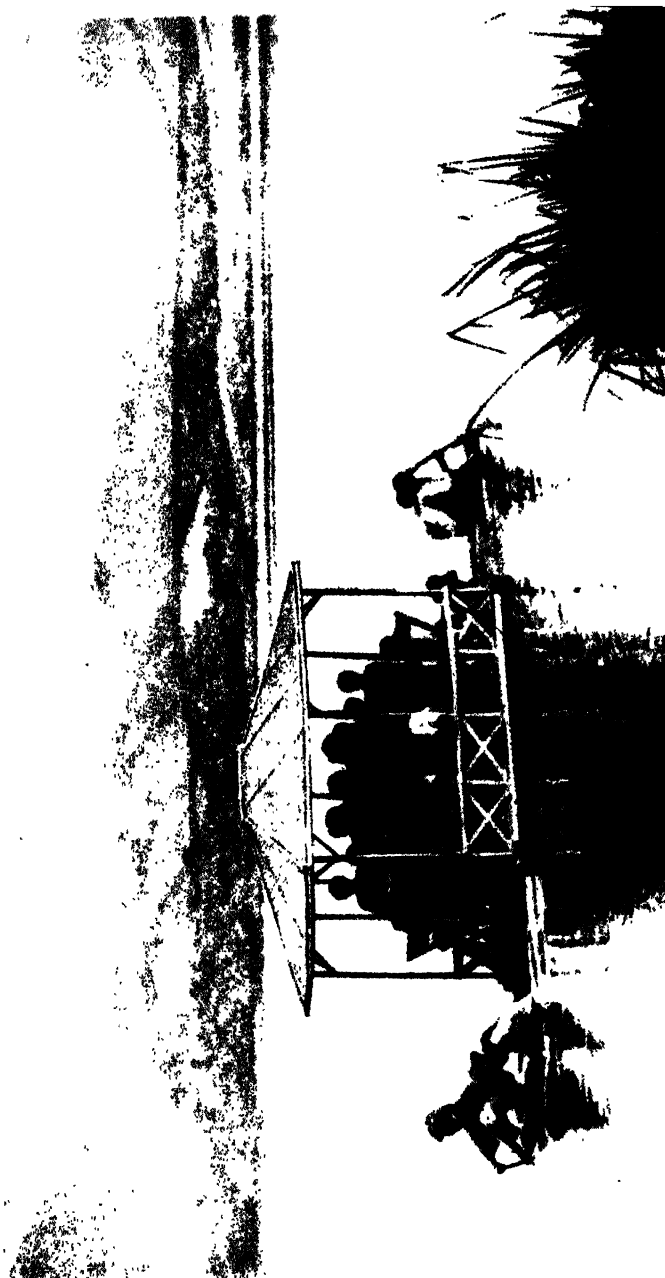
A dug-out is one of the most primitive sorts of boat. It is the kind that man made thousands of years before saws were invented for cutting planks, or nails for fastening them together, yet it has now been proved that such a boat is strong and seaworthy enough to face the storms of all the world's oceans.

It will be remembered that Robinson Crusoe, when alone on his desert island, made a dug-out canoe, only to find, when he had finished it after weeks of toil, that it was too heavy to move. Dug-outs can be made by anyone who can fell a tree, and who has tools with which to cut wood or fire to burn it. Many native tribes still use them. In the Solomons, a group of large islands lying in the South Pacific, they make beautiful dug-out canoes. On the Niger River, too, in West Africa, where trees of enormous size overhang the water, very large dug-out canoes are made by the natives.

How the Dug-out Improved

Dug-outs made from a single log are so narrow that they are very apt to capsize, an accident distinctly awkward, not to say dangerous, in waters infested with man-eating sharks. It was for the purpose of preventing such disasters that the outrigger was devised. In its simplest form the outrigger was just a long, straight pole or spar of light wood fastened parallel with the canoe. This original outrigger in its roughest form still exists in the Admiralty Islands, but other Pacific Islanders have gone a step further.

In the Fiji Islands, for instance, a group of some two hundred islands which are part of the British Empire, the natives rig their dug-out canoes with large triangular sails, and fit them with an outrigger on both sides, as illustrated in page 115. The people of Samoa, one of the most beautiful of all



ON JAVA'S LAKES passengers, who are not in any kind of hurry are ferried over in a contrivance which is really more a luxurious raft than a boat. Two dug-out canoes support the platform in the same way, though on a smaller scale, as is seen in the much more elaborate

craft illustrated in page 114. Such an arrangement is safe only so long as the passengers keep quiet and distribute their weight evenly. It would be impossible in a high wind blowing at all contrary to the course steered by the paddlers owing to the great air-resistance.

From the author's...



separately to the ends of the hollowed palm-trunk. The paddlers kneel in a double row ten or fifteen a side, according to the length of the canoe. A highly-ornamented gunwale indicates that this is a war canoe. Its bottom is cigar-shaped, which makes for easy launching.

A SOLOMON ISLAND CANOE is a dug-out cut from a single trunk of palm-tree. These craft, differ from most Pacific Island canoes in lacking an outrigger, and thus considerable skill is needed by the crew to prevent them from capsizing. The prow and stern are built on



American Field Museum

ADMIRALTY ISLAND DUG-OUT FITTED WITH AN OUTRIGGER

It takes a large tree to make a boat broad enough to be stable, and primitive man often has not the means to cope with its felling and hollowing. Therefore to prevent the narrow dug-out capsizing the outrigger was devised. It is a pole fastened parallel to the canoe and enables such craft to live on the open sea.

the South Sea Islands, are still more ingenious for, instead of an outrigger, a second canoe is fastened alongside the first, then a deck is built over the two and fitted with mast and sail.

It was the Samoan double canoe which suggested the wrongly named catamaran, for which there was, at one time, quite a craze among American yachtsmen. These double-hulled boats carried a tremendous press of sail, and on the calm waters of New York Harbour attained amazing speeds. "Catamaran" is really a Tamil word and refers to a very rude sort of raft made by the natives of Southern India. It consists merely of three logs of light wood lashed together, the middle piece being longer than the others and used as a keel. Larger catamarans fitted with mast and sail are used upon the great Amazon river of South America.

One sometimes hears the remark. "How interesting it would be to know

who built the first boat!" But the boat, like the plough, had not one inventor; it had many. In the old days there was not merely one tribe of man, but many different tribes in different parts of the world, all struggling slowly up towards some sort of civilization. And whenever a tribe happened to settle near to a river, a lake or a sea, there, by degrees, boats were invented.

At first a log or piece of driftwood would be used to help a man to float or swim across a river, then two or three logs would be bound together with creepers to form a raft. Where wood was scarce the first stage would be a coracle of skins, or, as on the Nile in Egypt, a bundle of reeds tied together. It is thought that perhaps these reed-floats were the first things to suggest the well known shape of a boat, which was afterwards copied in wood when the next stage, the dug-out, came to be invented.

MEN AND THEIR BOATS

The coracle, which is still in use on some Welsh and Irish rivers, is one of the oldest forms of boat. The original coracle was simply a large basket of wicker-work covered with the roughly tanned hides of animals, but the modern coracle is a framework of ash or willow covered with canvas, which is made waterproof with tar or varnish. It is so light that one man can carry it with ease, and although a person who is not accustomed to paddling one finds it difficult to manage, a skilled hand will actually go salmon fishing in one of these fragile bowl-like craft.

Such a boat is a common sight on the Tigris and Euphrates rivers in Mesopotamia, but is there called a "gufa." The gufa is built of wicker covered with hides and made waterproof with a coating of bitumen or pitch, springs of which are found welling out of the ground in that

country. Some gufas are built large enough to carry sheep and asses.

As primitive as the coracle or the gufa is the boat used by the people of Tibet, that chill and lofty mountain land lying to the north-east of India. Here, owing to the great height, there are no large trees such as could be used for making dug-outs. So the Tibetans make a raft of logs and build up the sides so as to form a great oblong wooden box, which they cover with yak hides sewn together. In this way a boat is built large enough to carry not only men but horses.

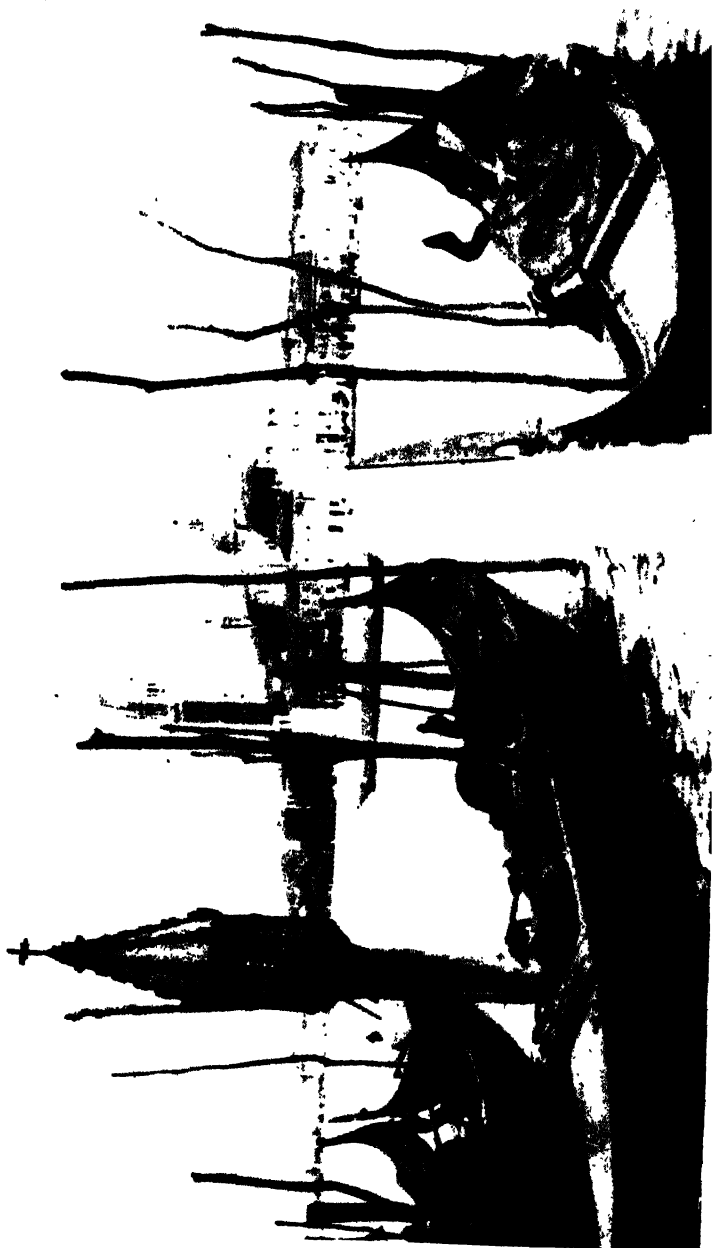
For crossing rivers the people of Northern India use what they call a "mussuck." This is nothing but a goat skin sewn up and blown full of air. It looks horribly like a dead animal, but is very light and very buoyant. The native sits astride the mussuck and works it with a paddle.



John Claude White

TIBETAN FERRY-BOAT ABOUT TO CROSS THE BRAHMAPUTRA III

Looking closely at this Tibetan version of a boat, you can see how they build it. First is made a raft of joined logs. To this they fasten a wooden frame and cover it with strips of yak-hide sewn together. The big stitches can be seen on the sides. This is one stage further in boat-building, the raft and the skin boat combined.



THE GONDOLAS OF VENICE have the distinctive bow found, in some form, in most boats native to the Mediterranean. The origin may have been the ram used on the ancient galleys, but at present, being the highest point in the craft, it serves as a sighting-post when

going under the many low-arched bridges of the island city. The gondola is built with a twisted stern, which acts as a rudder against the pull of the single oar with which it is rowed. The curved rest for the oar is seen outlined against the water on the starboard side.

MEN AND THEIR BOATS

Another skin-made boat is the Eskimo "kayak"; it is of sealskin stretched over whalebone, and is perhaps the smallest sea-going craft in the world, being about seventeen feet long and less than two feet in width and holding only one man. It is worked with a double-bladed paddle, and since a mere ripple would fill and swamp it, the dress of the paddler is joined to the deck covering, thus making the little boat perfectly watertight. The great Arctic explorer, Nansen, when stranded in the Far North, built for himself one of these kayaks and in it crossed a wide stretch of open water.

For longer voyages and heavier cargoes the Eskimo people have devised the "umyak," which is built of driftwood most ingeniously pieced and lashed together—for the primitive Eskimos had no nails, nor, indeed, any metal whatever—and covered with hides carefully sewn. Umyaks may be as much as 40 feet long and will carry two or three families with all their household goods. But the Eskimo men laugh at the umyak, which they call the "woman's boat."

Reed Boats in Egypt and Bolivia

As for reed boats, they are still sometimes used on the upper Nile for crossing the river. And on Lake Titicaca, in Bolivia, an enormous sheet of water 60 miles long, which lies at the tremendous height of 13,000 feet above the sea, are still seen much the same craft. But we are also fortunate in possessing some beautiful little models which were discovered in the 4,000-years-old tomb of Mehenkwetre, steward and chancellor to an Egyptian Pharaoh. They show that this type of boat was originally a solid bundle of reeds on which one stood or sat.

Thousands of years ago, when the Red Indian first came into North America, he found a country full of swift rivers with roaring, foaming rapids. So he had to invent a boat fit to navigate rough water, yet light enough to be easily "portaged," or carried along the river bank. Thus, in the course of ages, he came to build the birch-bark canoe which,

of all native craft, is the swiftest, lightest and most graceful.

The true Indian canoe is made of strips of birch bark fastened over a light wooden framework. The strips are sewn together with the fibrous roots of fir trees, and the seams made waterproof with resin. Not a nail, not even a peg, is used in its construction.

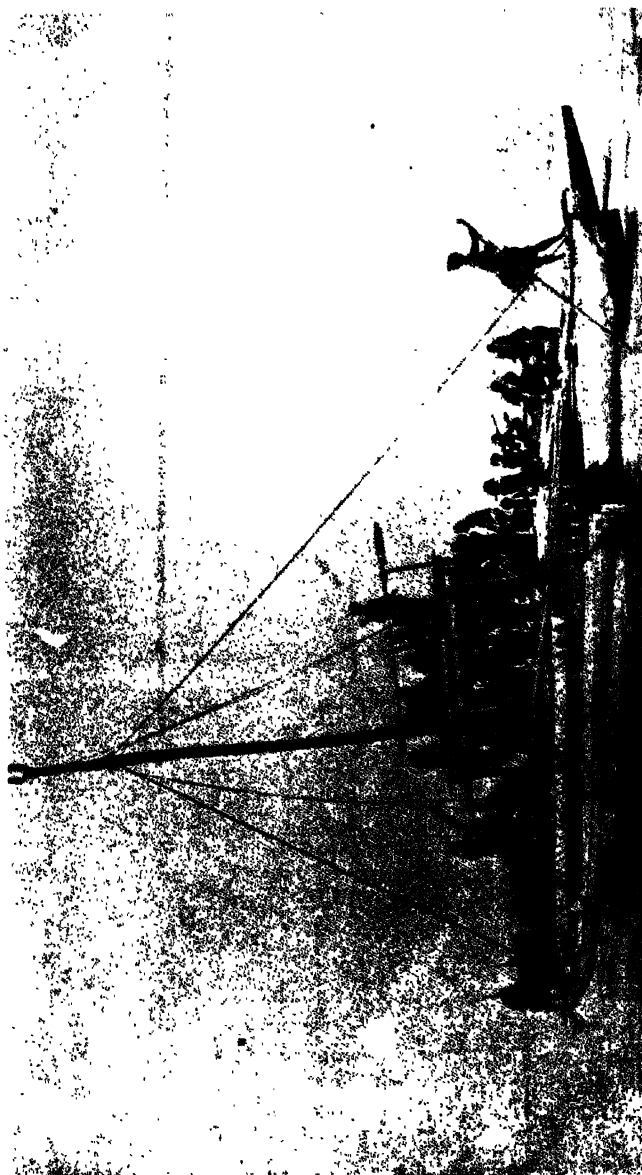
Great Feats of the Frail Canoe

The canoe is the one savage boat which has been adopted by all civilized peoples, for in spite of its frail look it is wonderfully seaworthy. So-called "Canadian canoes" are copies of the original craft, but with stronger material such as canvas or thin wood to cover the framework. The "Octoroon," which was only 17 feet long and 23 inches broad, crossed the Channel from Boulogne to Dover in eleven hours, and once a boy of seventeen, named Henderson, paddled alone in a small canoe from England to France.

The Chinese were probably the first people to build sea-going ships of any size, and we know that they invented the mariner's compass centuries before European sailors had any idea of such an instrument. Another very important invention of the Chinese was the centre-board, which can be let down so as to project under the keel of a vessel and thus keep it from drifting when sailing across the wind. The Chinese junk still has much the same shape as it had in the days when William of Normandy conquered England; but clumsy as it looks, with its high sides and square sails, it is quite a good sea boat and compares favourably with the craft which our own ancestors used in the days of Henry VII., no more than four hundred years ago.

The Norsemen and their Long-Ships

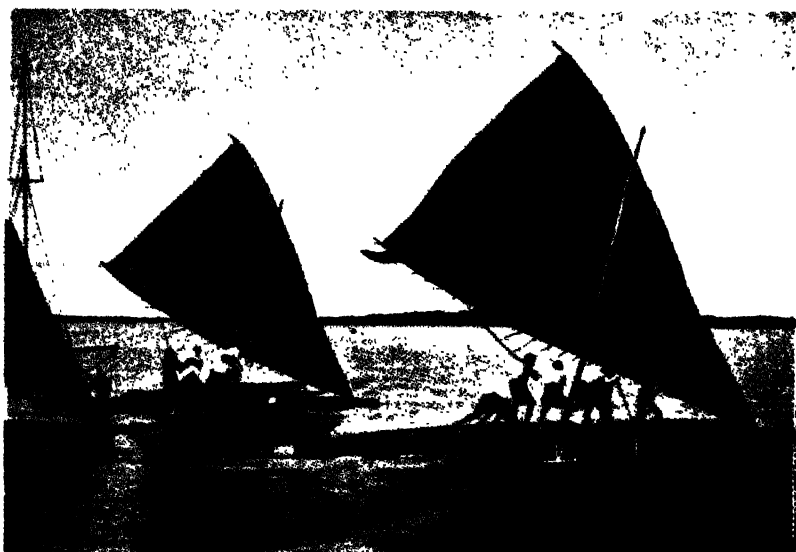
The best of the early ship builders in the West were the Norsemen. Some people will tell you that their long-ships were mere open boats, but it is absurd to think that men could have sailed from Norway to Iceland and Greenland in open boats. Actually they were fine, powerful



APRIL 1914

TWO DUG-OUT CANOES COMBINED TO MAKE A SEA-GOING VESSEL IN SAMOA

Very ingeniously, the people of Samoa have made a ship by building a superstructure over the two canoes and equip the resulting vessel with a mast. Long sea voyages have been made in such developing their dug-out idea. The outrigger suggested that a second canoe might take its place and so increase accommodation craft. The prows of the two canoes are plainly seen above and are of different shape. Two men with poles are holding her steady.



Sir Basil Thomson

SAILING DUG-OUTS OF FIJI IN A CLOSE RACE

Fiji Islanders apply a very effective sail to their dug-out canoes. These have no keel to counteract by resistance to the water the tendency of a boat to capsize under pressure of wind on the sails. Instead they have an outrigger on both sides, on to which men can climb out and by their weight prevent the canoe from heeling over too much.



John Bushby

BURMESE PADDY-BOAT CARRYING RICE DOWN THE IRAWADI

An extraordinarily ingenious development of the dug-out is seen in the craft called "laungzat." It is made from the "thingan," a large evergreen tree growing by the river-side. The log is hollowed, soaked in water, and then heated over a slow fire, making the sides spread out and increase carrying space. The sides are then built up with planks.



POLING A GUFU ON THE TIGRIS

One of the earliest departures from the idea of the raft was the vessel of wicker or other framework covered with hides and daubed in pitch. At Bagdad they are still used and called "gufas," the largest carrying a dozen men.

vessels, large enough to carry many men and even cattle and horses. One of the great Norse song writers, Olaf Tryggvason, has left us a description of a long-ship. It was 140 feet long, not counting the overhang at bow and stern, and had no fewer than 34 rowing benches.

Columbus' flag ship, the "Santa Maria," built five hundred years later, was only 100 feet long and inferior in every respect to the fine long-ships of the eighth and ninth centuries. Our photograph shows the duplicate of the "Santa Maria"; it was built in Spain for a great exhibition in America, and was sailed across the Atlantic in 1893—that is, 401 years after the first sailing of Columbus himself.

Shipbuilding improved rapidly in the days of Queen Elizabeth, in the sixteenth century, when the English began to

construct fast ships and the Spaniards very large ones. The galleons that brought silver and gold from South America to Spain were commonly of one thousand to twelve hundred tons burden, but the English ships, scarcely a quarter that size, were both faster and more handy. The great change in the eighteenth century was that the "castles" built on the decks of the old ships were done away with, and frigates came in, lighter, swifter, more easily managed and capable of beating into the wind.

Before talking about steamships it will be well to say a little about the wonderful development of sailing ships during the nineteenth century. There never were such wonderful vessels as the old clippers and there never will be again. To be fair, we must allow that it was the Americans, not the English, who first built really fast sailing ships. So long ago as 1821, the "George of Salem" came home to Boston from Calcutta in the amazingly quick time of 95 days, and in the following season went out in 85 days. At that time British East Indiamen took from five to eight months to make the much shorter passage from London to Calcutta.

In 1845 came the miracle of the "Rainbow." This ship, the first of the real clippers, was designed by John Willis Griffiths, and her shape was so new that old salts vowed she was built against all the laws of Nature. A crowd gathered to see her start, fully expecting that she would capsize at the first gust of wind. She sailed in February for China, and was home again in September with a cargo worth twice what she had cost to build.

The lines of the older ships had been those of the cod-fish, with round bows, flattish bottom and narrow stern. Griffiths' ships had sharp bows, and



Canadian National Railways

BIRCH-BARK CANOE RIDING THE WAVES OF RAINY LAKE, ONTARIO

Instead of skins to cover his boat frame, the North American Indian used strips of birch bark. He evolved a type of craft suited to his rivers; that is to say, when rapids were met they could be "shot," or the canoe could be "portaged" overland to the next smooth water. "Canadian canoes" are covered with canvas or built entirely of wood



A. W. Outler

ON AN IRISH RIVER: CORACLES AS USED BY ANCIENT BRITONS

It is surprising to find the same peculiar sort of vessel in Mesopotamia and the West of Ireland. The coracle was in use over 2,000 years ago in Celtic parts of the British Isles, and Caesar mentions them in the history of his wars. Originally of hides stretched on a wicker framework, they are now made of tarred canvas



Janish Legation

KAYAKS AND AN UMYAK SEALSKIN CRAFT OF THE ESKIMOS OFF THE GREENLAND COAST

In the largest of these boats we have an example of the Eskimo boat-building. Of wood or whale bone and sealskin, they are umyak, or woman's boat, in which the skin and framework boat completely watertight when the paddler is seated. A favourite trick is to lean over sideways until the boat capsizes, which it does very easily, and then turn a complete somersault, boat and all. The smaller boats are kayaks and one of the marvels of



ALL-REED BOATS OF THE WORLD'S HIGHEST WATERS

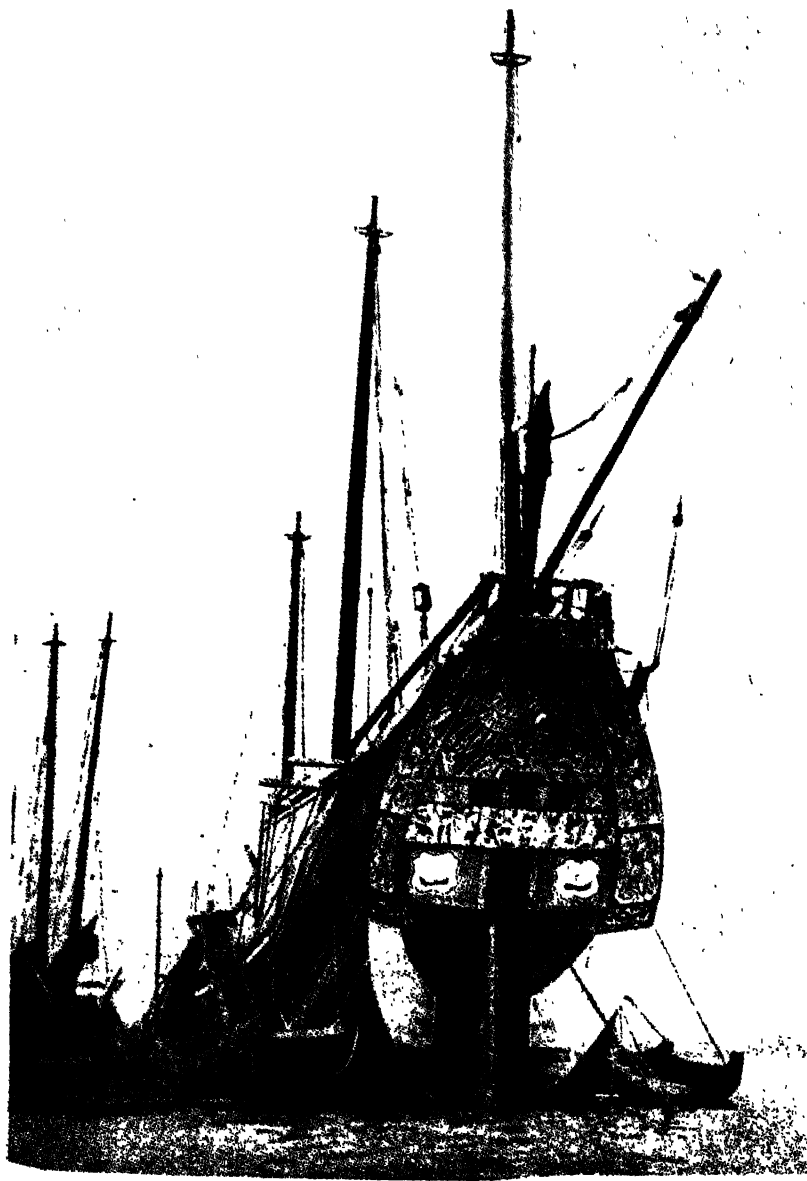
Bundles of reeds or faggots were contemporary with the floating log in boat history, and the reed boat is simply a development of this upon a framework to give stiffness. The reeds are bound tightly with cord on a framework of branches. Reed matting makes a rather indifferent sail on a windy mountain lake such as Titicaca in Bolivia.



Sudan Government Railways

NUGGAR THE NILE, USED LARGELY FOR FERRYING

The nuggar, still used on the Nile, is other strangely built. No fastenings are visible on the sides between plank and plank, for wooden pins pass vertically through each pair. The seams are caulked with pitch but the craft is very leaky. The rough sail and mast are only used against the current ; oars always for going down stream.



CHINESE JUNK: ANCIENT MERCHANT VESSEL OF THE YELLOW SEA

Perhaps the Chinese were the first to build sea-going vessels of any size; they had evolved a system of navigation and ship design, and thought of the centre-board and lee-board, centuries before anything of the sort was attempted in the West. Still we have the junk, little altered in 1,000 years, with its great free-board, matting sails and ornamented stern.

MEN AND THEIR BOATS

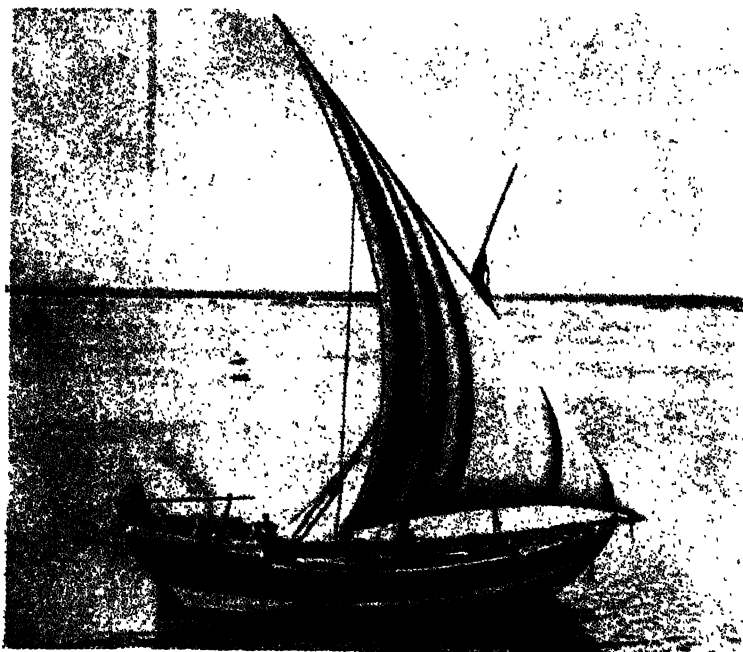
reached their greatest breadth amidships, then towards the stern melted into lines almost as fine as those forward.

An extract from the log of the clipper "James Baines" reads as follows: "June 18th, 1856. In all starboard stunsails, ship going 21 knots with main skysail set." This is the greatest speed ever recorded of a sailing vessel, and far ahead of anything achieved by a yacht. A knot is a speed of one sea mile, or about one and a seventh land miles, an hour.

The fastest run of a sailing yacht in an ocean passage was made by the American yacht "Atlantic" on May 24th, 1905, in a race across the Atlantic Ocean. She ran 341 sea-miles in a day, an hourly average speed of 14.2 knots. The highest speed at which any sailing yacht has travelled even

for a short distance is 16½ knots, a record which stands to the credit of a British-built schooner yacht named "Rainbow."

In the year 1819 the British schooner "Contract" was in mid-Atlantic when her look-out sighted on the horizon a ship apparently on fire. The "Contract" at once started to the rescue. But when they came nearer they were amazed to see that the ship, supposed to be on fire, was under sail, and that the column of smoke issued from a tall funnel. The strange ship drew rapidly away and soon disappeared. In point of fact, the vessel that had so startled the crew of the "Contract" was the "Savannah," the first ship which ever crossed the Atlantic by steam. It was then only twelve years since the date (1807) when the "Clermont," the first



LATEEN RIGGED DHOW BOUND OUT OF ZANZIBAR FOR INDIA

In this photograph we come to another long-voyage ship, a very old type that still survives and perhaps originated in the Persian Gulf. It was the principal type of vessel used in the old slave trade. Usually of 150 to 200 tons burthen, it carries a lateen or triangular sail, often coloured, with an immense yard. Notice the long sloping stem and high stern.

MEN AND THEIR BOATS



THE SHIP COLUMBUS SAILED IN

The photograph is of an exact duplicate of Columbus' ship, the "Santa Maria," which sailed across the Atlantic in 1893. The original vessel, 100 tons burthen, sailed in 1492.

of real steamboats, which was designed by the American inventor, Robert Fulton, had startled the people of New York.

Once it was proved that steam could be used for driving ships in the open sea, many firms began to build steamers. The first transatlantic race in which steamers were engaged was in 1829, when the "Sirius," a 700-ton ship, left Cork for New York, and four days later the "Great Western," of 1,340 tons, left Bristol. Both reached New York on the same day. Nine years later the British Government asked for tenders for conveying the mail to America by steam, and Samuel Cunard, a Quaker shipowner of Halifax, in Nova Scotia, at once determined to offer.

He came to England, got in touch with Sir George Burns and Mr. David McIver, and the three between them formed the Cunard Company, with a capital of

£200,000, and built four steamers, the "Britannia," "Acadia," "Caledonia" and "Columbia." These were small, according to our ideas, being only just over 1,000 tons each. They were built of wood and driven by paddle wheels. Their speed was about eight knots, and they took nearly three weeks to cross the Atlantic. Thus began the great Cunard Line, which still carries the transatlantic mail in vessels that are often and truly called "floating palaces."

About this time iron began to be used instead of wood for building steamships. A few small vessels had been built of iron quite early in the nineteenth century, and one, the "Garry Owen," having been wrecked on her first voyage, was found to be still watertight, although wooden ships, wrecked at the same time, were pounded to bits by the waves. But in spite of this



Or414

TALL BARQUE UNDER FULL SAIL

In the barque, the long-range sailing ship is seen at its best, and still competes, to some extent, with the steam vessel. It is three-masted, with yards on fore and main masts.



STERN-WHEEL PADDLE-BOATS ON THE MISSISSIPPI AT THE RIVER PORT OF ST. LOUIS

The largest river in North America, the Mississippi presents formid-
 able difficulties to navigation. The volume of water carried down
 this river and is especially suited to the shallow water. Barges
 are towed by being lashed alongside. Notice the great distance
 between the engines—situated under the funnels—and the paddles,
 with huge "mattresses" of hurdles and brushwood called levees



ONE OF THE SHIPS THAT DO BATTLE ON THE HIGH SEAS

The Greeks and Romans had fighting ships, but in more modern times, until the eighteenth century navies were usually merchant ships impressed for special service

lying



VESSELS OF UNIQUE CAPACITY AT FORT WILLIAM IN CANADA.

"Great Lake" freighters have the bridge and officers' quarters set right forward, while the crew live aft, an arrangement exactly opposite to the usual practice. Thus, except for small spaces fore and aft, they are practically one large hold and, for their tonnage, have a carrying capacity greater than anything afloat. These are on Lake Superior.



MASTERPIECE OF THE SHIPYARD: A LINER LYING IN A HARBOUR OF CORSICA

S.S. "Mauretania" anchored off Ajaccio. On account of the need for S.S. "Great Western" crossed to New York from England in sixteen North America to communicate rapidly and regularly with Europe days. She ran entirely under steam, but was also equipped with sails. over a particularly stormy region of the sea, the transatlantic service In 1907 the "Mauretania" did the distance in less than five days. has always provided the largest and fastest steamships. In 1838 the The tonnage of the two ships was 1,300 and 32,000 respectively.

MEN AND THEIR BOATS

proof of superior strength steamships were still built of timber until it was found that the limit in length of a wooden ship was about 275 feet. If built larger it buckled. The only substitute was iron, and what seems wonderful is that the use of iron instead of wood means a saving of at least a third in the weight of the hull.

Steel, being stronger and lighter, gradually took the place of iron. It is said that the first steel steamer ever built was the "Ma Robert," constructed in the middle of last century for the great missionary, David Livingstone, and used by him for travelling on the Zambesi River in Africa. The first of the big steel Atlantic liners was the Cunarder "Servia," of 7,000 tons burden and 17 knots speed. She was built in 1881. Ten years later nearly all new ships were being built of steel, and ever since then the size of such vessels has been increasing, until now we have floating cities of 60,000 tons.

A Steamship Tug-of-War

It was the coming of steam, too, that made modern battleships what they are. The first steam vessels built for the British Navy were the "Monkey," "Active" and "Lightning," all small craft, mere tenders in fact. The earliest steam fighting ship was the war sloop "Rattler," built at Sheerness in 1843, a vessel of just over 1,000 tons. She was also the first warship to be driven by a screw instead of paddle-wheels. The Admiralty had little belief in the screw, but the builder of the "Rattler" persuaded the authorities to arrange a tug-of-war with the "Alecto," a paddle ship of similar size and power; then, although the "Alecto's" engines were driven at their full power in the opposite direction, the screw boat towed her stern foremost at nearly three miles an hour.

The first iron warship was built in England in 1842. In 1860 the British Admiralty built the "Warrior," a real iron-clad of over 6,000 tons burden with engines of 1,250 horse-power. The "Warrior" was the last of the frigates, but she was three times the size of Nelson's largest line-of-battleships.

During the great American Civil War of 1860-1864 it was proved that the wooden warship was quite useless and out of date, for the steam ram "Merrimac" was more than a match for all the big wooden vessels brought against her.

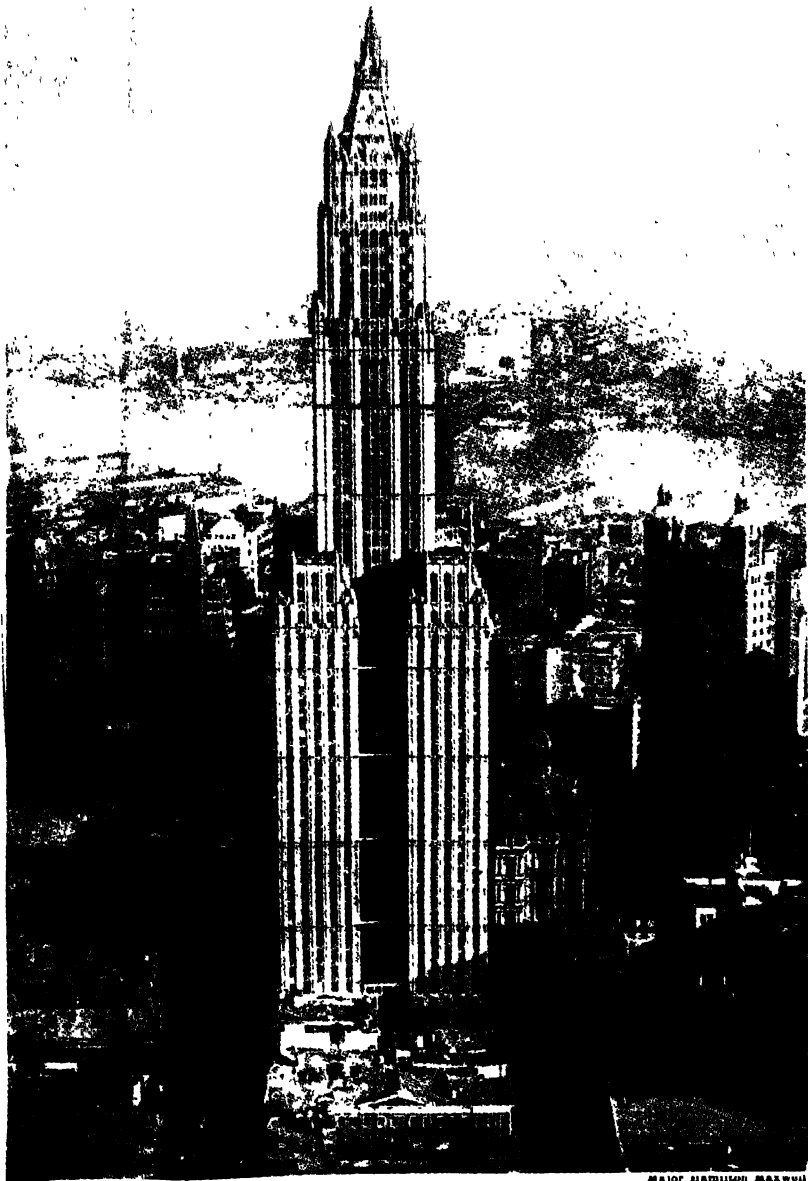
Napoleon Scorns the Submarine

As a result there came a demand for fighting ships fitted with enormous metal rams and with turrets on deck covered with heavy iron plating. Of the early turret ships a famous example was the "British Captain," designed by Captain Coles. She carried two great Armstrong guns in turrets on her deck. When first tried she behaved well, yet on her second cruise capsized in the Bay of Biscay and sank at once. After 1890 battleships were built of steel and rapidly grew larger and faster and in every way more powerful.

Submarines have been the dream of inventors for centuries, but the first practical one was built by the already mentioned Robert Fulton, in the year 1801. It was called the "Nautilus," and when tried remained safely 25 feet under water for several hours. Fulton built it in France to be used against the English, and if Napoleon Buonaparte had had foresight enough to realise its value, the whole course of history might have been altered. But Napoleon would not back Fulton in building submarines. The modern submarine dates from 1888, when the French designer, Lédé, constructed the "Gymnote," a vessel 60 feet long and driven by electric power. This was also the first submarine to be fitted with hydroplanes, or horizontal rudders, to help her to sink.

The World's Biggest Battleship

The biggest fighting ship in the world to-day is the British cruiser "Hood," built in 1920. She is of 41,200 tons and carries eight 15-inch guns. It may give some idea of her gigantic size to say that a hundred yards race can be run upon her quarter-deck. But the day of such huge battleships is passing. The modern idea is a smaller ship, but very fast, very handy and very heavily armed.



WHAT SIXPENCES CAN DO: THE WORLD'S TALLEST BUILDING

The building is 792 feet high, has 55 storeys and cost £3,000,000. It houses the Woolworth Corporation and the rest of the premises was let to other firms. In 1852 the first Woolworth shop was opened and now there are many hundreds in the United States and Great Britain. Frank Woolworth started with £60 capital and died worth £9,000,000.

New York the Wonder City

ITS BEAUTIFUL 'SKY-SCRAPERS' & THRONGING STREETS

I have little patience with those who denounce New York as ugly or vulgar. It may be noisy; but it is one of the real wonders of the world. There is, I do believe, no such picture of dream-like beauty as New York just lighting up at dusk. It is worth a long journey to see the glittering windows of the tall towers against a violet sky in a late autumnal evening. And even in the glare of noon these same tall buildings present many beauties of line to please the eye and remind us of the achievements of modern man. Much as I love to study ancient things, I can delight no less in the splendid sense of life and modernity that I find in New York.

THE shape and character of cities are always the results of certain material conditions of the land on which they have been founded. The first thing we think of when New York is mentioned is the "sky-scraper." Its many tall buildings, higher than any stone-built towers in Europe, make it quite unlike any city or the old world. When we look at a map of the country surrounding New York, we find that the busy part of what is now the second greatest city in the world occupies a narrow tongue of land, between ten and thirteen miles long and only two miles wide, called Manhattan Island, because a creek separates it from the mainland.

Within this small area the mighty city grew up, starting from a tiny village founded by the Dutch as New Amsterdam in 1621 and captured by the British in 1664, when it was re-named New York, in honour of the Duke of York, afterwards James II. It was just a typical old English town for the next hundred years, and was surrendered by Great Britain to

the young American Republic in 1783. For another century it continued to grow steadily and still to remain largely British in its character; then with the arrival of all sorts of foreigners from Europe and Asia, attracted by the growth of industry and wealth in the United States, its progress increased enormously.

The small island, however, remained a small island despite the vast hordes of people who crowded to it; indeed the whole area of Manhattan Island is only

equal to a mere scrap of the southern area of London! Two million people had to be accommodated upon it. So the only thing to do was to put up higher and still higher buildings. Fortunately the island is of rock formation, so that it was possible to bore great holes into the rock to hold the mammoth upright steel pillars for the tall buildings.

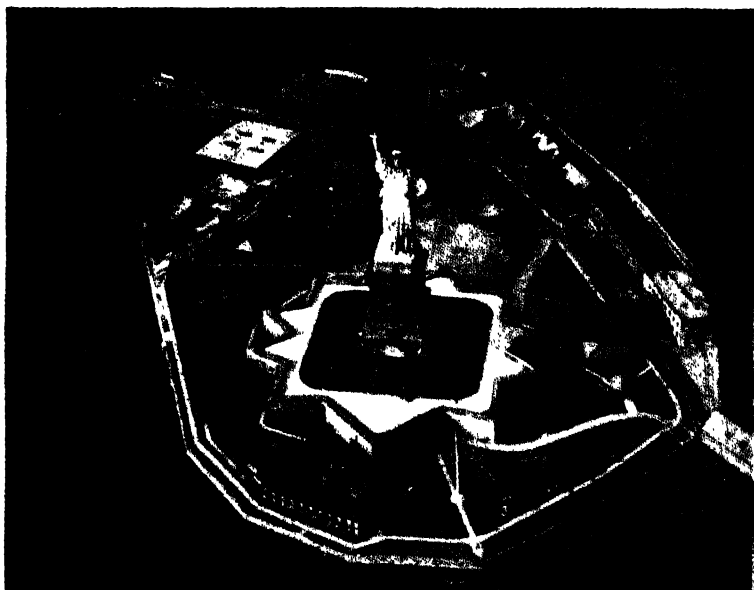
The only reason why the first of the "sky-scrappers" were crude in design was that the architects had to make sure before they troubled



Bwing Galloway

NEW YORK'S NARROWEST SKYSCRAPER

For most of its length Broadway cuts across the "Avenues" very sharply; in the narrow angle where it crosses Fifth Avenue at Madison Square is the "Flatiron" Building, 21 storeys in height.



Aerodrome

LIBERTY SALUTES ALL WHO COME OVER THE SEA TO NEW YORK

As if in an attitude of welcome to all who come to the great capital of the New World, the Liberty Statue, a colossal figure, holds up a torch 151 feet above Bedloes Island, which lies towards the head of Upper Bay in New York Harbour. At night her crown is lit by electricity and the torch glows vividly over the waters.

about anything else that the buildings would stand. When one goes up to the topmost floors and listens to the wind, even on a day when it has not seemed windy down below, one understands what the high buildings have to withstand. Well, safety was secured. Then the architects set about to redeem them from the charge of ugliness. They studied the designs which would best suit construction on so vast a scale and take away the reproach of dull uniformity. Very soon they made the high buildings a pleasure instead of a pain to look at, as well as a marvel to the eye.

The visitor to New York has at first a feeling of bewilderment and discomfort, due in part to the length of the streets. He sees the numbers of the houses and shops running into thousands, and finds the numbering of the streets tiresome. When one is seeking Fifty-ninth Street, and is only at Twenty-eighth, the distance seems

immense. The length of the city looks interminable every time one has to go up or down town. Its distances are far greater than those of London or Paris because it is strung out on a line instead of being wrapped round a centre. The line on which it is strung is Broadway. On Broadway and on the upper part of Fifth Avenue almost all the chief things in New York are to be found.

At one end—the tip of the tongue of land that forms Manhattan Island—is the Battery and the pretty garden that is washed by the sea. All around are the steamship offices, Custom House, and kindred hives of activity connected with the ocean. Farther up a little comes the financial quarter which clusters round Wall Street, where fortunes are made and lost sometimes in a few hours.

After the financial section comes a district of wholesalers in various trades, nearly all with German-Jewish names over

NEW YORK THE WONDER CITY

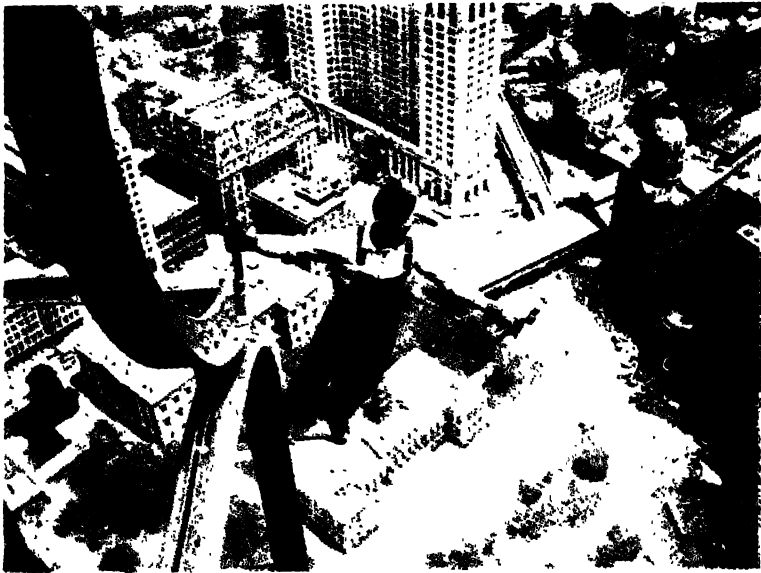
their shop-front. Then come the newspaper offices round the new white City Hall, and farther on we find ourselves in the shopping district. After Madison Square, with its enormous hall for public meetings, the hotels begin, first the less expensive, then the vast establishments for business men, and finally the palaces for the wealthy, not on Broadway itself but a block or two away. The Grand Central Station is in the heart of theatre-land.

Here it is that Broadway justifies its title at nightfall, "The Great White Way," by the vast sky-signs, many of them moving pictures as well. Beyond is a region given over to the display of expensive motor cars behind immense plate-glass shop-fronts. After that there are no particular districts. Broadway becomes like any other of the larger thoroughfares, and it goes on stretching out until it gets among meadows and woodland. Motoring along in the country, as it seems, we are

amazed on suddenly catching sight of a board that tells us we are not clear of Broadway yet.

Fifth Avenue, New York's "other street," is certainly one of the finest thoroughfares in the world. It offers a noble vista as far as the greenery of Central Park; it has on it some of the most splendid private houses, some of the most expensive shops, some of the finest office-buildings and some of the most lavishly furnished churches that can anywhere be found. The private houses tend to give way to shops, fashion moves farther on, but nothing can rob Fifth Avenue of its renown or of the claims on which that fame is founded.

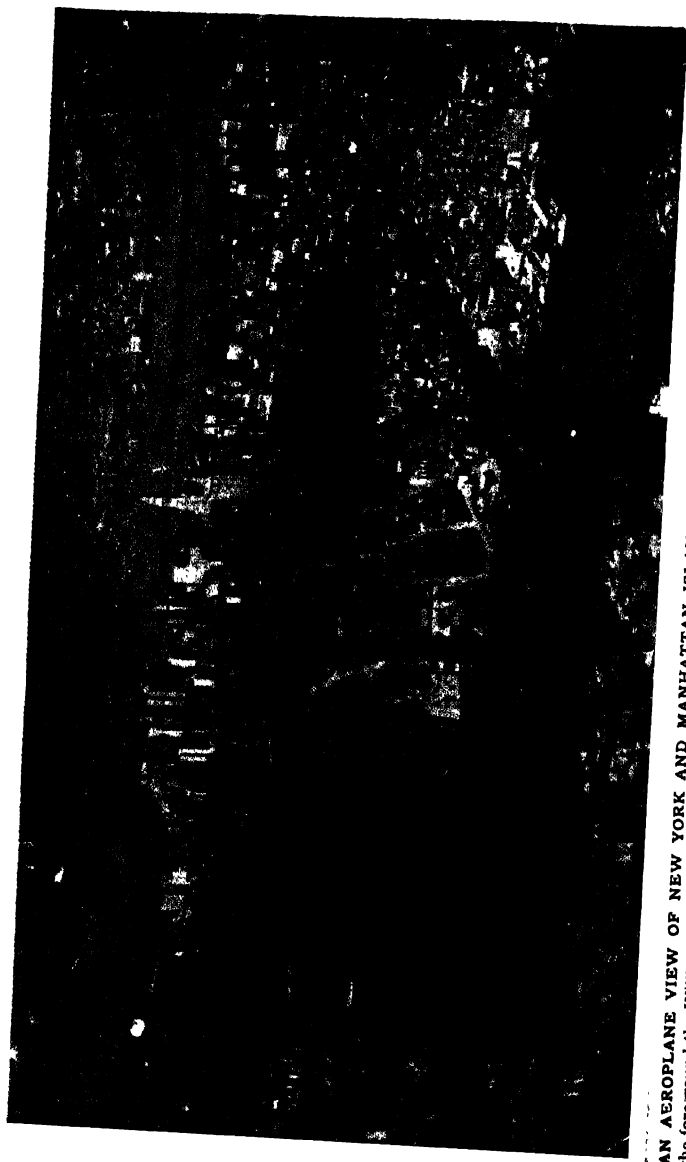
I have always been impressed amid all the rush and rattle of traffic in the centre of the city when I came upon the quiet, majestic pile of the New York Public Library. Right in the middle of the busiest part of the city a site that would



Brown Bros.

POSING FOR THE CAMERA ON THE WOOLWORTH BUILDING

New York began as a fortified town and was built on an island for defensive purposes. The city has long outgrown its site, and so, with a rock foundation to start on—unlike London, which is built over clay—the skyscraper was evolved. In erecting the framework riveters have to climb the girders by fastening steel footholds as they go.



AN AEROPLANE VIEW OF NEW YORK AND MANHATTAN ISLAND GUARDED BY EAST RIVER AND THE HUDSON
 In the foreground the Williamsburg Bridge joins the city of Brooklyn to Manhattan Island across East River. To the left an inlet marks the entrance to the Navy Yard, and beyond are Manhattan and Brooklyn bridges. Looking across the seaward point of Manhattan, Ellis Island is seen near the top of the photograph, and along the bank beyond it stretches Jersey City. East River is really an arm of the sea between Long Island and Manhattan Island. It is joined to the Hudson by the creek called the Harlem River.



Bridge Gateway

MOUNTAIN MASS OF SKY-SCRAPERS SEEN FROM THE LANDING STAGES OF BROOKLYN.

The wharves of shipping companies line both banks of East River. From the Brooklyn bank, whence we are looking across the river, the mass of sky-scrappers towards the apex of the triangular Manhattan Island gather themselves into the familiar skyline which impresses the traveller on his first sight of New York from the incoming steamer. In mid-stream a dredger with its crane and mud-shoot goes down with the tide, and near the bank a steam tug glides by for its load of barges. The Woolworth Building is on the right.



UNCONCERNED, THOUGH NEARLY 800 FEET ABOVE THE STREET: WORKERS ON THE WOOLWORTH BUILDING
 The men who helped to assemble the girders of the Woolworth Building when it was erected worked at a height of nearly 800 feet above the pavement. One of the men is actually leaning out over the side with a heavy sledge-hammer in his hand. Out in the river a huge Cunard liner, looking like a toy at this great height, steams down her berth higher up the river. A long building ending in two pointed turrets stretches out towards her bows. Beneath it runs the tunnel carrying the electric railway under the river from Jersey City.

NEW YORK THE WONDER CITY

be worth incredible millions of dollars has been set apart for readers and borrowers of books! It has been given ample room. All round it lies open ground, so that the building can be well seen and so that an impression of leisure and ease may be conveyed.

The largest of the churches is Saint Patrick's Roman Catholic cathedral, of white marble that still shines, for smoke is nothing like so much of a curse in New York as it is in many British cities. There are few open fires in the houses, none in offices. All the heating is done either by central heating, which consumes its own smoke, or by electricity. Less imposing than Saint Patrick's, but more beautiful, is the church of Saint Thomas. There is a big synagogue lower down, and there is a Dutch Reformed church which makes a good appearance, and there is a big Presbyterian church, too.

Examples of American Architecture

Londoners are quite used to their roadways being perpetually under repair; but London's streets are undisturbed compared with those of New York. Fifth Avenue is the best kept of all the thoroughfares. Most of the other avenues are noted for their bad paving. These other avenues which run lengthways and the streets which cross them, dividing the whole city into "blocks" and making it a place where one can never enjoy the adventure of losing one's way, present scarcely any features to the view of the visitor. They have little character for residents even. One thinks only of the new Post Office and the Pennsylvania Railway station, or "deepo" (depot) as they call it, on Eighth Avenue, rescuing that otherwise undistinguished thoroughfare from the commonplace.

These buildings are two of the most inspiring examples of the American architecture of to-day. After a very long period of feebly accepting the worn-out styles of Europe, American public buildings have begun to possess a style of their own, and a very fine style too. It has displayed itself so far chiefly in railway stations,

which is fitting to an age that worships speed and lives by "transportation."

Still more strongly is the triumph of American architecture felt as we gaze at the Eighth Avenue Post Office. A wide flight of many steps, a row of twenty Corinthian columns, a cornice with an inscription—that is nearly all, yet no building of our time will leave a deeper impression of majesty and imaginative power. The inscription from Herodotus goes well with the dignity of the portico:

Neither snow nor rain nor heat nor gloom of night stay these couriers from the swift completion of their appointed rounds

Suburban Homes of "Commuters"

The smallness of the island on which their city is planted makes a very large number of New Yorkers live in outlying districts, and those which have been occupied during the last twenty years or so bear witness to the desire of the "commuters," for agreeable surroundings and for charm as well as comfort in their homes. A "commuter" is a season-ticket holder, or what they call in the North of England a "contractor." The payment of a daily fare is "commuted" into the payment of a lump sum.

Human Hive that is Never Still

There is, however, no part of New York which, like certain parts of London, empties itself at night and is reoccupied only the next morning when the workers arrive once more. It is a hive of human bees which is never still and never quiet. Even in Wall Street or at the top end of Fifth Avenue or among the mansions of Murray Hill, though you might hear the tread of the policeman in the dark hours, you would be close to a teeming population; a few steps would bring you into the midst of tenement houses crowded to excess—and very likely by people who could not speak English—and to wooden dwellings in which the very poor shelter themselves until such time as those places shall be marked for demolition.

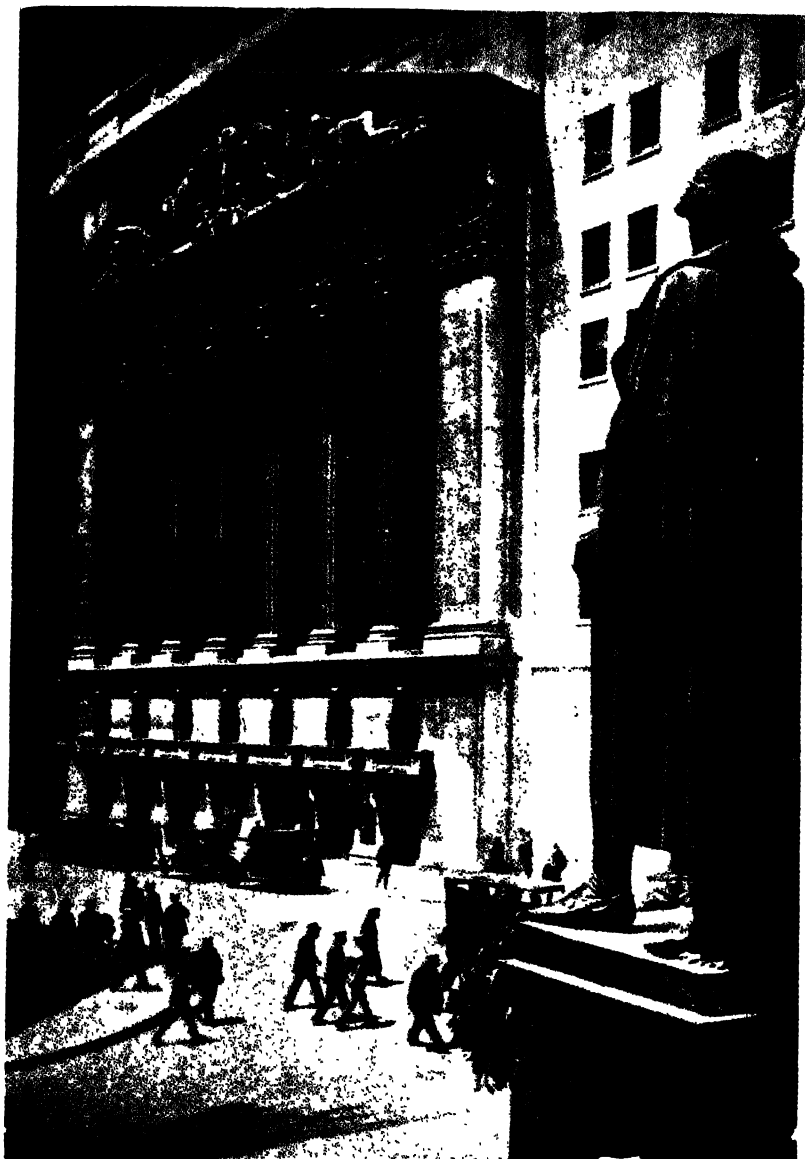
There are regions of New York where none but Yiddish newspapers are on sale,



Swing Galloway

CENTRAL PARK AND FIFTH AVENUE FROM THE SOUTH

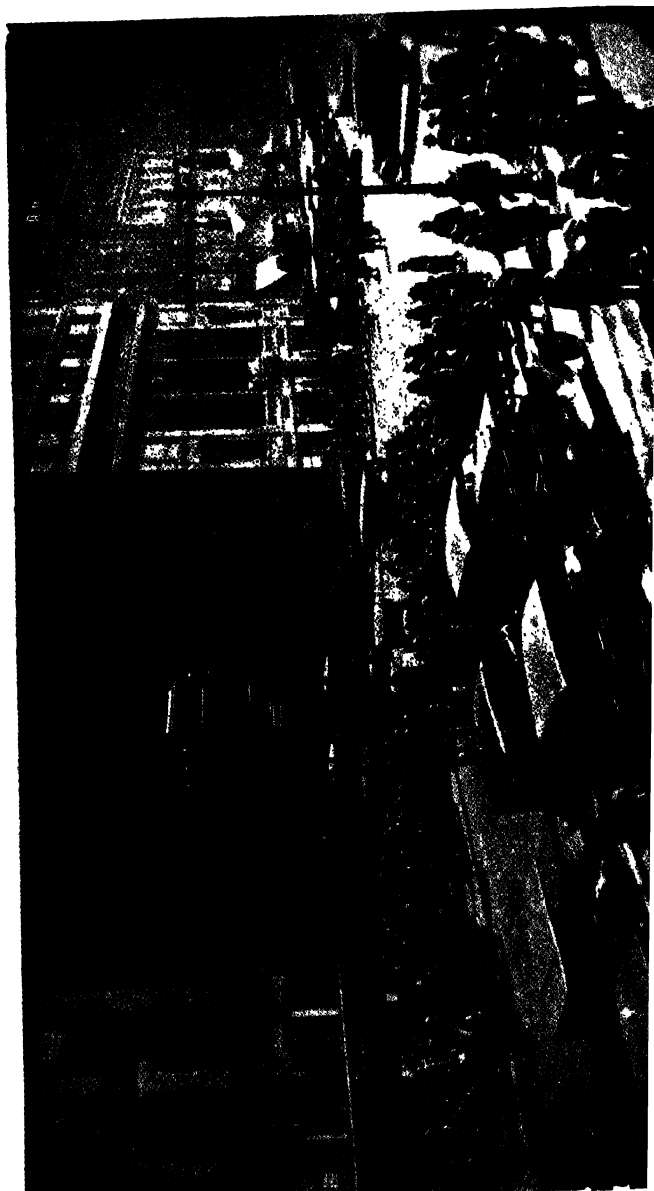
Looking southwards from the buildings above the Plaza one sees the splendid shops and mansions for which Fifth Avenue is famous. Opposite are the 840 acres of Central Park, which is $2\frac{1}{2}$ miles long and half a mile wide, and forms New York's principal "breathing space." The white line near the top of the photograph is Croton Reservoir.



Ewing Galloway

WALL STREET LAID ON THE SITE OF THE OLD RAMPARTS

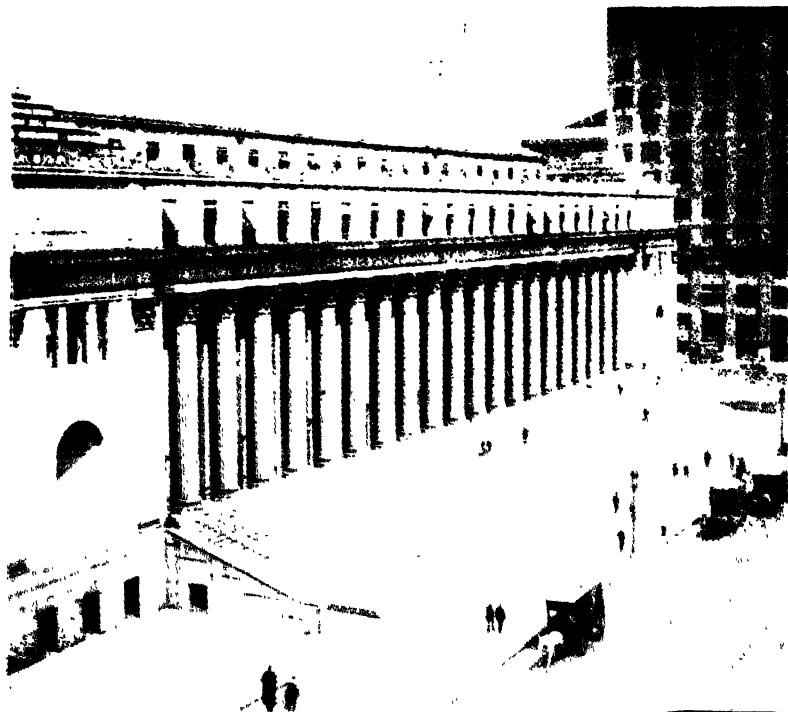
Near the south end of Manhattan Island, Wall Street runs from Broadway down to East River. Where Nassau Street crosses it the United States Sub-Treasury stands on one corner with the statue of George Washington on the steps. Opposite is the Stock Exchange, where fortunes are lost and made and the business done affects all the world.



BROOKLYN

BRONZE CONTROL TOWERS THAT REGULATE THE TRAFFIC IN FIFTH AVENUE

To cope with the enormous traffic, control towers have been erected at their base and so use the smallest possible room at street level. In England pedestrians have the right, by law, to walk in the roadway. A policeman in each, with red and green lights, signals vehicles to start or stop. A prize was originally offered for the best design, and but in New York this is an offence called "jay-walking." People must keep to the pavements except at certain crossing places, this is the successful one. The legs supporting the tower slope inwards



AMERICAN BUILDING AT ITS BEST: THE NEW G.P.O.

New York is not all a city of sky-scrapers. These are mostly office buildings and stand in a group at the southern end of Manhattan. But even for lower edifices, such as public and government buildings, a native American architecture adapting classical models has arisen, as is seen in this photograph of the New General Post Office on Eighth Avenue.

unless it be papers in Hungarian, Russian, or Polish. There are whole blocks where nothing but Italian is spoken. That is why New York strikes one as being more like a Continental than an English city.

What causes the "restlessness" which impresses most visitors to New York? Partly it is due to the quality of the air, which stimulates the energy of the nerves and makes everyone feel that there are great opportunities waiting for all who will exert themselves. Partly it is the result of the rapid and unceasing changes which the city has been through and which are still going on. It is in process always of being torn down and built up again on a more expensive and elaborate plan.

Every now and then one is startled by an explosion and one's alarm is quieted

by the explanation: "blasting out for the foundations of a new building." The noise of it contributes largely to the impression that one brings away from New York. It booms through the rattle of the elevated railways that run along at the height of second-floor windows, it mingles with the not unmusical hooting of the ferries that are continually passing between Manhattan Island and the New Jersey or the Staten Island shores.

The tramway cars are lumbering and noisy, but there are not many motor omnibuses compared with the fleets of these which throb through London's streets. One omnibus route takes us to Riverside Drive, the favourite part where the wealthy make their abode. The situation is magnificent. Below flows the



Seven Six.

HAPPY LITTLE NEGRO CHILDREN ROMPING IN THE "COLOURED" SECTION OF NEW YORK

One often hears people mention the "colour question" in discussing the United States. This means the great problem caused by the negro population, which is steadily increasing. In the old days before slavery was stopped—first by the Northern States and then in

the South as a result of the Civil War of 1861-1865—the southern plantations were worked by negro slaves imported from Africa. After being freed these negroes were cut adrift from their old homes and have since worked northwards, even as far as New York.



IN EAST SIDE, PART OF NEW YORK'S SLUM DISTRICT

Between East River, Brooklyn Bridge and Broadway is the district called East Side. It contains the notorious Bowery, for long a disreputable neighbourhood but now respectable, and the foreign quarters. Orchard Street, seen here, is largely inhabited by Jews and is often crowded with stalls. The houses are all tenements, each a warren of poor families.

NEW YORK THE WONDER CITY

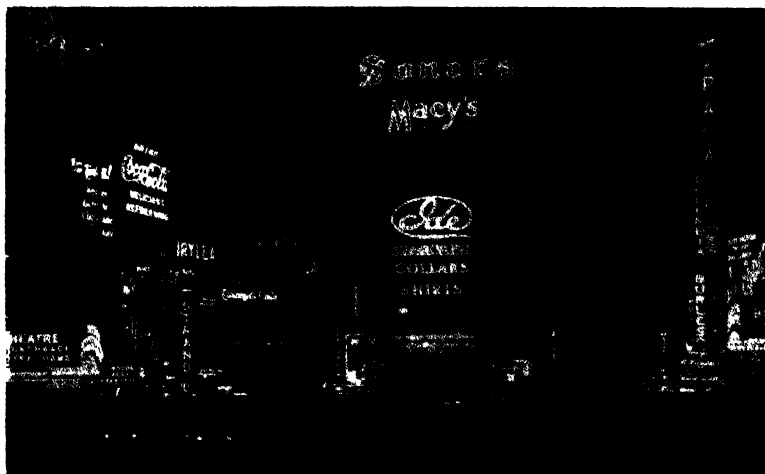
Hudson, across it rise the bluffs on the New Jersey side known as the Palisades. There is an openness about the situation, a freshness about the air even in great heat, a beauty in the prospect, that confer upon this majestic esplanade a charm possessed by no other residential quarter.

Behind it, not far away, lies Central Park; nowhere is a public playground laid out and looked after with more taste or more care. To make it many years ago 840 acres of swamp had to be drained, then much rock had to be cleared away. Now it is as pleasant a refuge from the noise and squalor of a city as any park could be. Two miles and a half long by half a mile wide, it is made to seem even larger than it is by the skill of its landscape gardeners. Traffic crosses it in sunk roads so as not to spoil its rural character. All over the park during a bad heat wave people will be found sleeping. No objection is raised. It is the people's property. If they want to sleep there, they can.

These periods of high temperature strike New York suddenly and always send up

the death rate. The air is humid and, even at night sometimes, almost unbearably heavy. Those who are in health, who can dress lightly, eat lightly, work lightly, need not suffer if they are wise, but there is a pitiful list of victims generally in the poorer quarters. The New Yorker dresses to suit the weather. If he feels his coat oppress him, he takes it off and goes on his way to business with it on his arm down Fifth Avenue as readily as in a side street.

A final word should be given to the Hudson River - no city stands beside a nobler stream. The tall buildings have enhanced it, have fitted themselves in with the natural design of the riverland on which New York is planted. Such buildings by Thames or Seine would appear monstrous, they would overhang the stream and give the impression that they were altogether out of place. Beside the broad, majestic Hudson, especially in the tremulous twilight of the late summer evening, they are in keeping with the grandeur, the vastness of the scene.



Erving Galloway

THE GREAT WHITE WAY: BROADWAY AT NIGHT

Broadway is so festooned with electric bulbs that Americans call it the Great White Way. It needs a long exposure to take such a photograph, and as the advertisements are always changing in colour and lettering some of them are blurred where the camera lens has recorded several different words on the same space.

The Wonder of the Waterfall

WORLD-FAMED SCENES OF THE THUNDERING WATERS

It is not surprising that many famous sights disappoint us when we first see them. We have heard so much and read so often about them that we form great ideas in our mind, and when in later years we have the good fortune to stand before them we somehow feel that they do not come up to our mental pictures. But this is not so with Niagara. No description, no picture, can exaggerate the majestic beauty, the fascination of the famous fall. I have visited these and many others in different parts of America, 'twixt Canada and Patagonia, as well as in Europe, and as they all have an appealing charm, I feel that waterfalls must be classed among the most pleasing features of Nature. This chapter on waterfalls in many lands explains how they come into existence and why the great falls tend to move nearer and nearer to the lake from which their waters flow.

MOVING water, in its various forms, plays an important part in connexion with the changes, large and small, which the earth's surface is constantly undergoing. The slow-moving glacier, working by means of the gravel and boulders which it rolls along, carves out and smooths down the ground over which it travels, while rain washes away the hills and the sea is ceaselessly at work along the coastline. But more important by far is the action of water in the shape of torrent, stream or river.

If all rocks were equally hard there would be nothing to prevent a watercourse from making for itself a valley of uniform width, with sides of equal steepness and with a valley-bottom of the same slope from the source to the sea. As, however, there are layers or "strata" of varying hardness, this gnawing-cut process or "erosion" goes on more rapidly in some places than in others, with the result that during its course a river may slide smoothly over hard rock, may be confined within a gorge where the stone is soft enough to be eaten away quickly, or may wind in a wide valley where the soil is earthy and level.

World's Two Most Famous Falls

In dealing with waterfalls we are specially concerned with those conditions which prevent a river from making for itself a valley bottom with a uniform slope. These conditions may be best illustrated by a description of the world's two most famous waterfalls, Niagara and the Victoria Falls of the Zambesi.

Under the name "Ongiara," Niagara Falls appear on Sanson's map of Canada, published in Paris in 1657; but the first white man to see them was Father Hennepin, a member of La Salle's expedition for the exploration of the Mississippi (1678). He describes them as:

A vast and prodigious cadence of water, which falls down after a surprising and astonishing manner, insomuch that the Universe does not afford its parallel. The waters which fall from this horrible precipice do foam and boil after the most hideous manner imaginable, making an outrageous noise, more terrible than that of thunder.

Why Niagara is Creeping Backwards

The Niagara River runs from Lake Erie into Lake Ontario, a distance of nearly 25 miles. The difference in level between the two lakes is a little over 300 feet, of which more than half occurs at the Falls. In the general lie of the land, this fall of 300 feet is represented by a steep, step-like descent of ground running east and west 5 miles from the south shore of Lake Ontario. Probably not less than 25,000 years ago, possibly more, the river ran from Lake Erie right across the plateau to the edge of the drop, and Niagara Falls were thus within a few miles of Lake Ontario. Since then they have receded up-stream a distance of over 7 miles to their present position.

This receding or "cutting back," which may be taken to average about 5 feet a year, is a result of the formation of the rocks. The upper plateau is covered by hard limestones overlying softer strata, chiefly a clayey substance called shale.

THE WONDER OF THE WATERFALL

The backwash of the actual falls, by wearing away these shales, undermines the layer of limestone, fragments of which break off from time to time. Consequently, while the upper part of the river does not deepen its bed to any great extent, there has been formed below the falls a narrow gorge with steep sides. Its width varies from 300 to 1,200 feet, and its depth from 200 to 300 feet.

What Will Happen to Lake Erie?

As the fall moves up-stream, the gorge is further hollowed out, so that, after a period which has been calculated at about 50,000 years, it will extend right up to Lake Erie, and be three times its present length.

A good example of the end of such a process is presented by the Rhine Valley between Basel in Switzerland and Cologne in Germany. From Basel to just below Mainz the Rhine flows over a plain. Thence, to a short distance above Cologne, the valley is narrowed to a gorge. Ages ago the upper reach, now a wide plain, was a lake. Its waters gradually worked their way through the Rhenish Slate Mountains. Probably there were falls "cutting back" as we see Niagara doing to-day. When the Rhine gorge reached its present extent, the lake was drained and became a fertile plain, which is exactly what will happen to Lake Erie some time in the far distant future. The rapids of Bingen, at the upper end of the Rhine gorge, are all that is left of the old falls. The Victoria Falls of the Zambesi have a very different geological history.

How the Victoria Falls were Made

Ages ago the great Zambesi river, over a mile wide at this point, flowed placidly over a wide plain, beneath which was black basaltic rock. One day, possibly through some volcanic convulsion such as an earthquake, an enormous crack opened in this hard rock, extending from bank to bank across the river-bed. One of our pictures (page 152) shows this chasm viewed from its eastern end—in other

words, the left bank. The lips of the crack are still quite sharp, and the walls go sheer down from them. This rift, nowhere deeper than 350 feet, and varying in width from 80 to 240 feet, would soon be filled by the river. Here is Livingstone's description of what happened:

When the mighty rift occurred, no change of level took place in the two parts of the river thus rent asunder, consequently the river suddenly disappears, and we see the opposite side of the cleft, with grass and trees growing where once the river ran.

In fact, after filling up the chasm the river still continued its course over the plain, until it happened that the water was able to find a weak spot even in the hard basaltic rock where old cracks had been filled with softer material. Thus immediately beyond the first curve of rock, on the left of our picture, there opens a narrow gorge about 100 feet wide and 400 feet long. From this point the river has, in the course of ages, worked its way through the hard rock, forming a zigzag series of cañons 40 miles in length.

Railway Bridge at a Dizzy Height

Just below the gorge, at a height of 400 feet above low water level, the gulf is crossed by a single-span girder bridge, the highest railway bridge in the world.

Though the final result—falls and gorge—is in both cases similar, there is one great difference. There has always been a Niagara Fall, ever since there has been a Niagara River. The Victoria Falls only came into existence when the river had found a way out of the crack, and, abandoning its former course over the plain, had carved out the great zigzag gorge. Niagara Falls, as we have seen, are moving slowly up-stream. But the basaltic rock of the Zambesi is too hard to be undermined by the mere backwash of the falls, which therefore remain much where they were when they first came into existence.

Niagara and the Victoria Falls show us the gnawing-out power of water on its most tremendous scale. The processes we have studied in detail in connexion with these two are further illustrated



WATERFALLS. Many small rivers made by the melting glaciers in the interior of Iceland have to leap great cliffs to reach the sea ; the Seljalandsfoss, at the base of which this horseman stands, is in the district of South Land. The Norse word " foss " means a waterfall—the same word is found in Yorkshire, for Norsemen settled in both England and Iceland.



LOOKING DOWN FROM AN AEROPLANE UPON THE THUNDERING FALLS OF NIAGARA

Towards the lower end of the River Niagara, which is part of the territory, Beyond the island is the great curve of the Horseshoe Fall, the aeroplane view above, a strip of land, thickly wooded, divides narrower American fall is 1,080 feet wide and 167 feet high. In which is in Canada, and is 3,100 feet wide and 158 feet high. The



141 Walter Leffroy

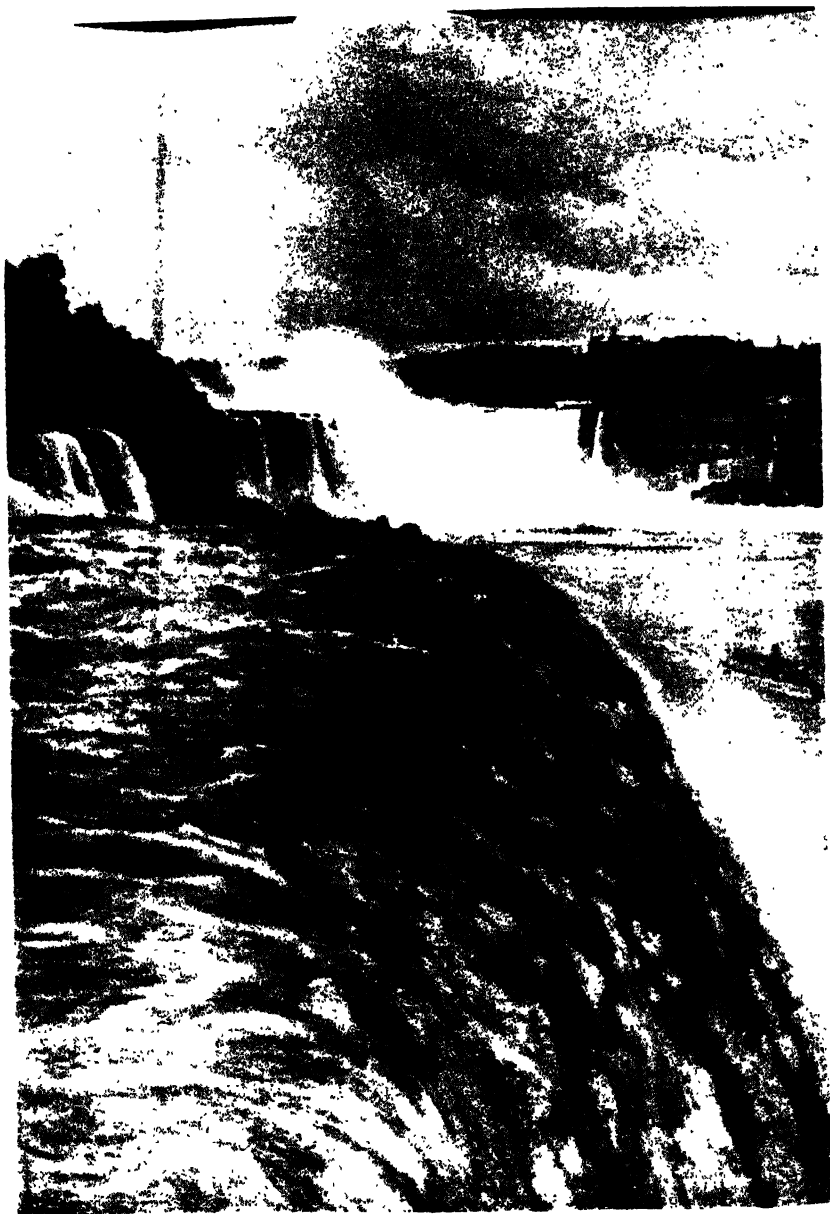
UNDER THE BRINK OF NIAGARA IN WINTER

Part of the falls are frozen every year during the winter months. A path has been cut in the limestone under the Horseshoe Fall, and where in summer the visitor has to walk in oilskins to protect him from the spray, in winter he can go dry behind these great icicles flashing like jewels in the sun.

by the pictures given of other well-known waterfalls in various parts of the world. Most of them, however, are of falls in mountain regions, where there can be no such huge mass of water as is supplied to Niagara by four great lakes, or to the

Victoria Falls by a river like the Zambesi, which has already travelled 500 miles and has reached its middle course.

Still, the falls of the Laja River in Chile look distinctly like a small-scale Niagara. But even a river of the size of the Sharavati



NIAGARA is jealously guarded lest anything should spoil its wild beauty. There are two towns quite close, but parks on both sides of the river and also on Goat Island keep buildings from coming too near. The steamer is the "Maid of the Mist," which battles with the surging current in order that visitors may see these wonders from below.

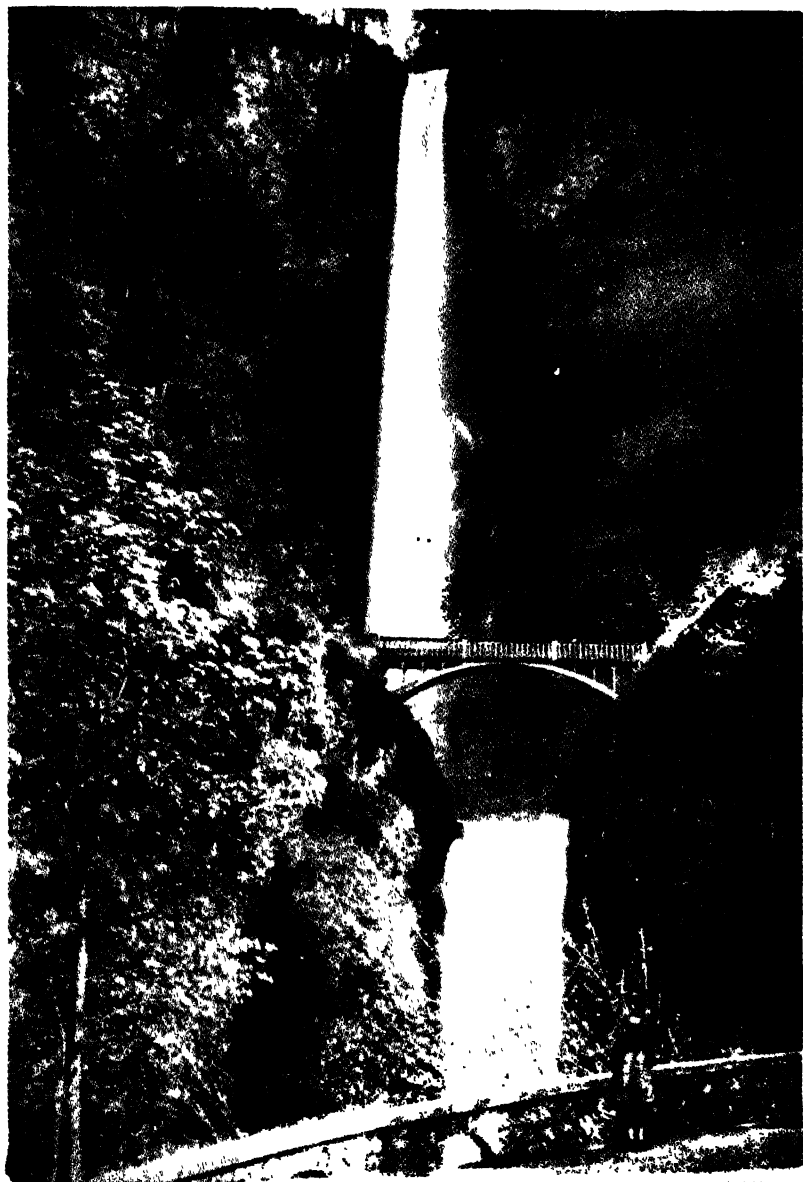


TWO RIVERS MEET below the red roofs and old castle of Jajce in Bosnia. The Pliva goes winding past the town and then suddenly drops 100 feet into the Vrbas, a tributary of the Save, which in its turn joins the Danube. The deep music of the main fall is accompanied by the softer notes of several smaller cascades.



FALLS IN THE YOSEMITE NATIONAL PARK, CALIFORNIA

Hidden in the mountain range called the Sierra Nevada, in California, there is the wonderful valley of Yosemite, made by vanished glaciers which carved a trench a mile deep and seven miles long. The Yosemite River drops over 2,000 feet into it in three cascades. The valley was discovered in 1851 by a party in pursuit of raiding Indians



MULTNOMAH FALLS: HOW A TRIBUTARY JOINS THE COLUMBIA

From Portland, Oregon, the journey up the Columbia River to The Dalles, a town on the south bank, can be made either by road, rail or water. The river cuts through the Cascade Mountains in a fifty-mile gorge, and at one point the Columbia River Highway and the railway cross a tributary stream which drops in two cascades of 605 and 67 feet.



VICTORIA FALLS are the greatest in the world. The River Zambesi, on its way through Central Africa, suddenly drops into the deep chasm seen above, which is only 240 feet at its widest and narrows to 80. At the brink the stream is a mile across. The tremendous spray makes photography impossible save in the dry season when the river is low.



THE RAINBOW FALL is the widest of the four that together make the Victoria Falls. It is 1605 feet across and about 340 feet deep. Opposite to it is the narrow gorge, 100 feet wide and 400 feet long, through which the fallen river rushes into a zigzag bed, cut deep in the rock for 40 miles, and called the Grand Cañon.



GREAT RAFT OF LUMBER LEAPING THE RISTA FALLS

Sweden produces vast quantities of timber every year, for about half the total area of the country is forest land. The logs of pine and spruce are felled and floated down the rivers to saw and pulp mills. In the photograph an enormous mass of logs is seen sweeping round the bend, while another mass is dropping over the brink of the fall.

in India may be so broken up by the nature of the ground as to produce a number of cascades instead of one fall. Others are mere rills falling over a precipice in comparison with Niagara.

The first description of Niagara by Father Hennepin expresses amazement,

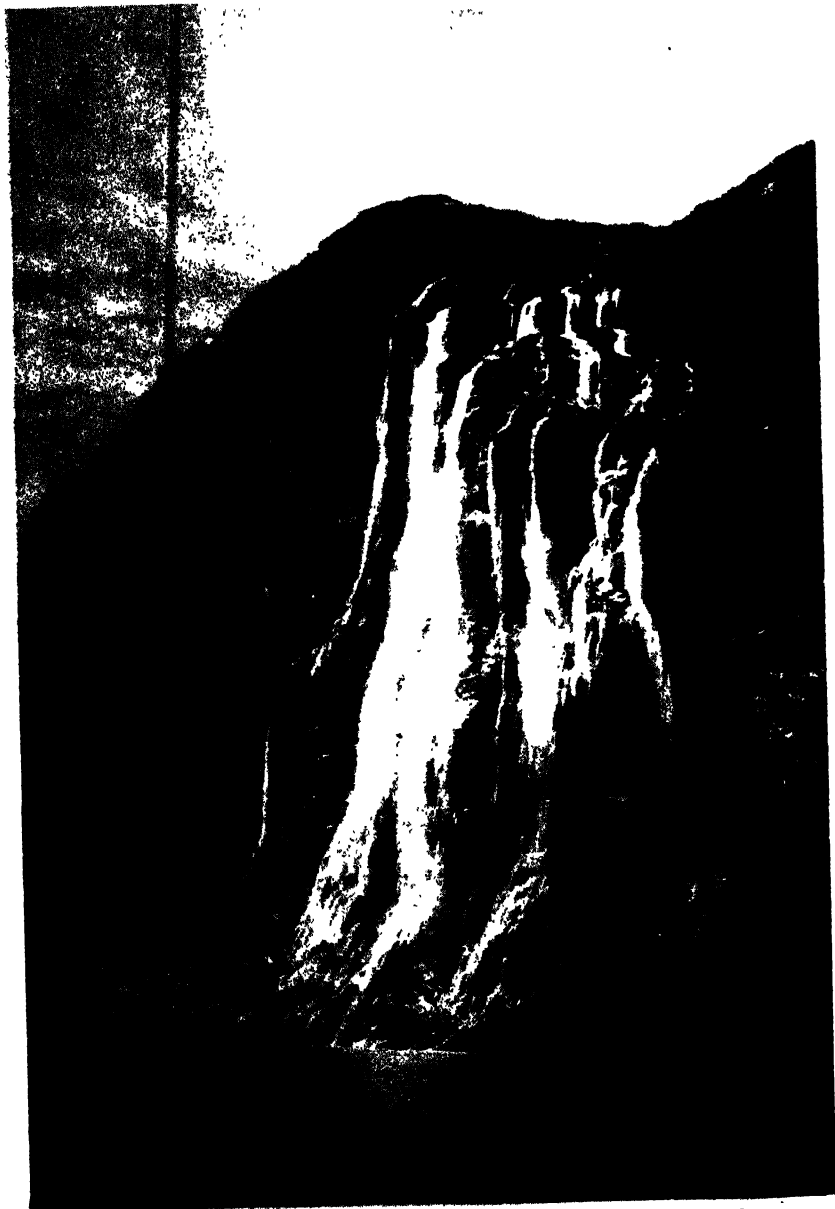
or even terror, rather than admiration, but some of the falls shown in our pictures are among the most beautiful examples of river scenery to be found anywhere.

Waterfalls, however, are not only beautiful. They may be made useful. Our picture of the Rista Fall in Sweden shows



GESROPFA FALLS: INDIA'S LOVELIEST CASCADE

In the North Kanara district of Bombay the River Sharavati flows over a great cliff on its path through the range of the Western Ghats to the Arabian Sea. The four cascades are known as the Rajah, the Roarer, the Rocket and the Dame Blanche, or White Lady. The cliff is 830 feet high and the pool below the Rajah 132 feet deep.



THE SEVEN SISTERS drop in a graceful veil of spray from the side of the Geirangerfjord, one of the narrow fjords or inlets which pierce the coast of Norway. To reach the cascade one starts from the seaport of Aalesund and goes by steamer through miles of fjords, which are often shut in by steep precipices thousands of feet high.



A MIST OF SPRAY hangs over the gorge into which the Maan Elv, a Norwegian river, makes its great plunge of 345 feet—hence the name Rjukanfos, or Reeking Falls. When the sun is shining on the spray the drops of water act like a rain cloud and a beautiful rainbow bends its seven colours over the abyss. The photograph was taken by the brink.



WHERE THE LAJA FOAMS DOWN FROM THE SNOWY ANDES TO THE PACIFIC OCEAN

The Laja is a river in Central Chile, and forms the boundary between the provinces of Biobío and Concepción. It flows out of Lake Laja in the Andes to join the River Biobío at San Rosendo. Chile is full of beautiful cascades because, as a glance at a map will show the country is a long and narrow strip between the tremendous range of the Andes and the Pacific Ocean. Hence the rivers, fed mainly by the melting snows, have to descend thousands of feet during their journey to the sea in a comparatively short distance



KAIETEUR FALLS NEARLY FIVE TIMES AS HIGH AS NIAGARA

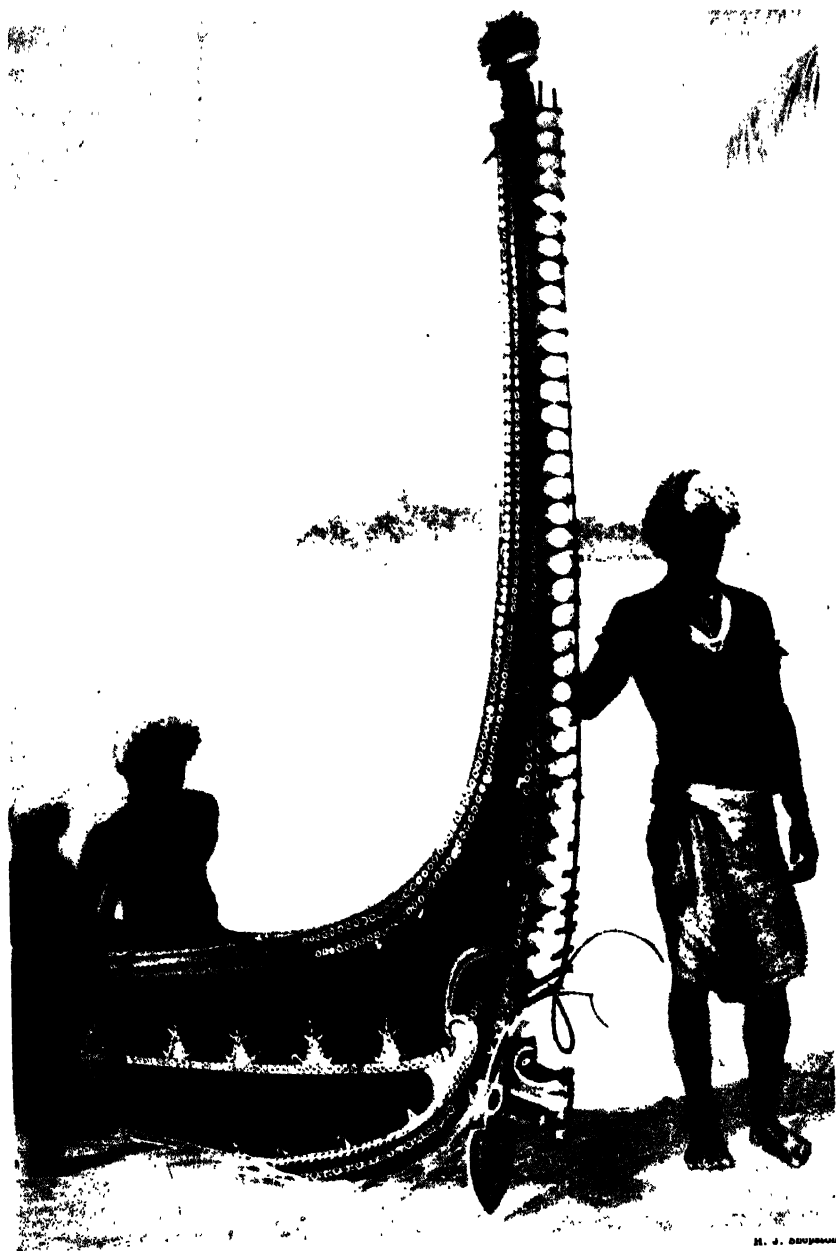
In the wild interior of British Guiana, eleven days' journey from the sea at Georgetown, the River Potaro sweeps over the brink of an abyss 741 feet deep. While it is estimated that more than a million people visit Niagara every year, few but the forest savages, like these two standing on a rock, ever see Kaieteur; all its vast energy runs to waste.

masses of timber being carried from the upland forests to the lower valley, where they are utilised in pulp-mills working by power drawn from the river itself.

The total amount of energy developed by Niagara has been estimated at 5,000,000 horse-power, of which possibly three-fourths might be made practically available, not, of course, without spoiling the beauty of the falls and ruining them as a tourist attraction. As it is, several power-distribution companies on both

sides of the river are already exploiting the falls in this manner. This is done by means of canals and tunnels which start a mile or two above the falls and lead the water to great turbine engines, connected to dynamos, below the falls. On the picture in page 148 may be seen the "outfall" of one of these tunnels.

Electrical power generated in this manner is conveyed considerable distances by cable. But there are limits, as in the case of the mighty Kaieteur Fall.



SOUTH SEA ISLANDS. Solomon Islanders decorate war canoes with mother-of-pearl and cowry shells. The carved figurehead is a charm supposed to ward off danger from the vessel and its crew.

Sunshine Isles & Savages

THE UNTAMED LIFE OF THE SOUTH SEAS

We are apt to think that where Nature offers us beautiful scenes and sunshine life must be at its best. But mankind usually degenerates in such surroundings. It is not sunshine, a perpetually blue sky, nor the absence of need to toil for food, that raises man above the animals, but rather his fight against uncertain weather and lack of easy food supplies. It is a better fate to have been born in the misty isles of the British seas than in those sunshine isles of the Far South about which we are to read.

THE Lotus Islands, the Islands of Delight—by these and other names the beautiful isles of the South Seas are widely known. And, certainly, no such description would seem to be too extravagant, for many of them are accounted to be among the loveliest spots on the face of the globe. Strung out across the Pacific Ocean, close to the Equator, they enjoy perpetual summer.

Of the principal groups of South Sea Islands there are two kinds. Some built up by volcanoes, like Tahiti, have mountains, rivers, waterfalls and grand and rugged scenery; others, such as the Paumotus, are of coral formation and very low-lying. While these lack the grandeur of the larger rocky islands they have an appeal and a charm all their own. Viewed from a distance, only the waving tops of the palm trees greet the eye; then, as the vessel approaches, is seen the outline of the coral reef which forms the boundaries of the islet with its enclosed lagoon. Every traveller to these Eastern Pacific atolls tries to find a fresh phrase in which to convey their beauty.

How the Islands are Grouped

For geographical purposes the South Sea Islands are classed in three groups: Polynesia ("many islands"), Melanesia ("black islands") and Micronesia ("small islands"). In the first-named are included Fiji, Tonga, Samoa, Tahiti, the Paumotus, the Marquesas and Hawaii. To the second belong New Guinea, or Papua, and the less civilized islands of the Bismarck Archipelago—New Britain, New Ireland and the Admiralty Islands—the Solomons, the New Hebrides and the Loyalty Islands. In the third group we

have the Caroline, the Marshall and the Gilbert Islands. While these names are useful enough, we may distinguish between the two main groups in a simpler way.

Natives who are styled Polynesians are good-looking, often handsome, people, with brown skins and smooth or curly hair. Their Melanesian brothers, to the westward, are ugly in type, often repulsively so; they are of a darker colour and have frizzy hair. It is to this last-mentioned feature that the Papuans owe their name. The native of New Guinea boasts a head of hair that resembles a mop, so the Malays christened him "papuwalh," which means "frizzled," and the name has clung to him.

The Magnificent Men of Fiji

Among the Pacific islands that have come under British rule those of Fiji (there are 200 of them in all) are best known to us. They are considered by some to be the most beautiful of the South Sea paradises. They are interesting further because the Fijians themselves are of two races; indeed, they form a link between the Papuans and the Polynesians. Physically, they are a fine people, being tall and strongly built. In colour their skins are dark, and they mostly have the frizzy hair of the Papuan. Our picture of a Fijian belle combing her mop of hair well illustrates this. In the case of children the heads are generally shaven with just a few tufts of hair left growing.

That the islanders in former days were cannibals and had a reputation for ferocity is only too true. Human sacrifices were frequent, the savage mind holding the belief that, when a man was killed and eaten, such qualities of courage,



162 Thomas

"NURSERY" FOR SEEDLINGS OF THE COCONUT PALM

Islands in the Pacific are the best places for the coconut palm, which prefers to grow near the sea. In cultivating a "nursery" the nuts are planted in mud, or sand and seaweed, and watered till a shoot appears. When this shoot has grown to about the size seen above the nut is transplanted. In about six years the tree begins to bear coconuts.

strength and cunning as he possessed would pass into the bodies of those who partook of the horrid feast. The human flesh thus eaten was known as "long pig." Many victims were slain also on notable occasions through superstition. At the launching of a new war-canoe such a sacrifice was held to bring good luck. And on the death of a chief a number of slaves would be killed in order that he might be well served in the after life.

With the coming of the missionaries these barbarous customs gradually ceased. From being a bloodthirsty savage the Fijian has become quite a reformed character. To-day he is a peaceable, gentle-natured man, with just a leaning towards foppishness. His children attend school, he shows himself able to adopt Western ideas, and he sends many youths to the colleges to be trained as native teachers and pastors. Nowhere in the Pacific has there been so quick and

complete a change from barbarism to civilized conditions.

Missionary enterprise, of course, has been very active throughout the islands of the South Seas. Ministers of all creed have gone fearlessly among the wildest tribes to carry the message of their Gospel. Many of them have suffered death at the hands of the natives. Such martyrs were John Williams of Erromanga, Patterson of the Isles and Chalmers of New Guinea. All these workers in the mission field found that the religion of the Pacific islanders was based on what is called "animism"; that is, the people thought that all things, whether human beings and living creatures, or lifeless objects such as trees and stones, had souls which were powerful and might be either friendly or hostile to man.

A Christian community is that of Tonga, or the Friendly Islands. The

SUNSHINE ISLES & SAVAGES

natives are fine specimens of manhood, stalwart and good-looking, with skins of a bright copper brown and fair, curling hair. They are particularly fond of sports such as boxing and wrestling.

In the Samoan Islands, to the north of Tonga, the people are even more attractive. They enjoy the reputation of being very courteous and hospitable, while their honesty is a welcome contrast to the behaviour of other islanders. In olden days the arrival of a ship in Polynesian waters was, to most, an incentive to theft, but the Samoans have not been guilty of this crime.

It was a king of these islands, Malietoa by name, who was a great friend and ally of John Williams. The missionary spoke in high praise of the intelligence of this native chief. In more recent times, Robert Louis Stevenson has made us familiar with the pleasing character of the Samoans. The great writer made his home among them, and he found his

brown-skinned neighbours a race of gentlemen, well-mannered, faithful and affectionate. To them Tusitala ("the story-teller") was a loved friend, and sincere was the mourning throughout the islands when it was known that he was dead. Samoa was a German possession before the Great War; now the British flag flies above the grave of "R L S."

Eastward of Samoa lie the Society Islands, so named by their discoverer, Captain Cook, in honour of the Royal Society which had sent him out on his voyage. The principal of these islands is Tahiti, the Otaheite of the famous explorer; a French possession, it is declared to surpass Fiji in beauty. The natives are tall and robust, dark-skinned, with black curly hair; but they are less fine to-day than their ancestors, those magnificent men who greeted Captain Cook on his first landing there. Like so many Pacific people, unfortunately, the Tahitians are decreasing in number, for



C. W. Oullinson

SOLOMON ISLANDERS WAR DANCE WITH BARBED SPEARS

War dances keep the Solomon Islander happy when there is no one to fight. Each man paces forward and back, feints with his spear and guards with his shield, growling viciously all the time. The spear heads are made of the bones of large fish, barbed and often poisoned. Under British rule there is plenty of dancing, but very little real fighting.



ARCHERY IN THE SOLOMONS WITH A COCONUT TARGET

In the Solomon Islands, which lie to the north-east of New Guinea, the bow is a favourite weapon. The target used for practice is made by slinging between two coconut palms—which often grow to a height of fifty feet—a rope, on which is tied a coconut fitted with wooden wings to make it look like a bird.

disease and other causes have made ravages in their midst.

Tahiti is a land of natural loveliness, rich in palms and other splendid trees, its hills covered with the umbrella fern and dense thickets of guava. It is "the Pearl of the Pacific," or, as an old native bard styled it, "Great Tahiti the Golden." Small wonder is it that the seamen of the warship *Bounty* returned here after the famous mutiny in 1790.

More, perhaps, than any other South Sea native, the Tahitian is a laughter-loving, light-hearted being, with a fondness for dancing and singing. Parties of several hundreds will assemble for "himenes," or native singing festivals, their voices being very tuneful and pleasing. And the Tahitian loves to play some musical instrument. Says a writer

To see a great fellow, six feet high, sit down on the sand under the palms at high

SUNSHINE ISLES AND SAVAGES

noon and go "twang'e, twang'e" on a jews-harp; to see half-a-dozen fo'c'sle hands on a small pearling schooner in a dead calm, sitting by the cookhouse and drinking strong black tea, while they make night hideous with long drawn-out wailings on an old wheezy concertina—such things are enough to make the gravest man crow with laughter

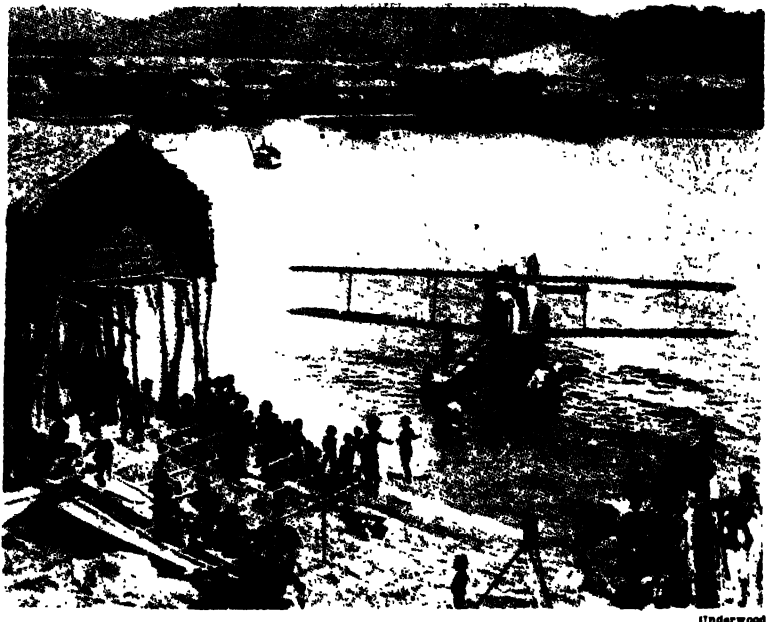
Still farther westward in the Pacific are found the Paumotus, the Pillar or Cloud Islands of early voyagers, the Drowned Archipelago of Captain Cook, and variously called the Low Archipelago and the Dangerous Isles. Some eighty in number, these atolls, or coral islands, are not the least beautiful of Nature's gems in the southern ocean. The islands are low-lying, as has been said, the highest of them scarcely rising more than thirty feet above high-water mark, but for simple grace and charm they are unequalled. Some are circular in form, others are oval

or of horseshoe shape, but all boast the same feature: the blue lagoon encircled by a coral reef edged with tall palms.

The Paumotu atolls are a romance of Nature. They have been built up slowly by generations of the coral animal on the summits of submarine mountains.

Not all the Paumotus are inhabited. On more than half of them there is no life save that of sea-birds and land-crabs. Upon the larger islets a fairly deep soil has formed, and here the bread-fruit tree, the coconut palm and the pandanus, together with the banana, flourish plentifully. From the dried coconut is derived copra, and on many an atoll is to be found a lone white trader who employs scores of Paumotuans in collecting this valuable article of commerce.

It is the coconut palm which the robber land-crab seeks out for his depredations.



SEA-PLANE AND FLYING BOAT ASTONISH A PAPUAN VILLAGE

Papua is the east or British portion of the great island of New Guinea, just north of Australia. Many of the villages are built on piles over lagoons. One day an exploring party visited the coast in air-craft and with a cinematograph camera. The natives were terrified at first, but curiosity soon mastered their fear, as we can see.

SUNSHINE ISLES & SAVAGES

This native of the atoll is a monster crab, as much as two feet long by one and a half feet broad. Its strength is remarkable, and it will bite off eight or ten nuts at each ascent of a palm. How the Paumotuan outwits this enemy is ingenious.

Having found that a crab has made his way up a palm, the native prepares a kind of wreath, or girdle, made of clay and leaves, or grass. With this he climbs some distance up the tree and plasters it firmly round the trunk. The crab comes down the tree backwards, and when he feels the clay below him he takes it to be the solid earth. As a result he loosens his hold of

the tree and falls to the ground below, where, if he be not dead already, he is quickly pounded to pieces with a club.

For all that these South Sea atolls are so beautiful, life upon their white coral beaches is not ideal. The Paumotuan has a monotonous time of it. His chief, and often sole, occupations are the collecting of copra and diving for the pearl oyster. The latter, if it does not yield a pearl itself, provides the mother-of-pearl that is so valuable in commerce. The islanders are expert divers, scorning the diving-suit, and are fearless in their descent into the clear, shark-haunted Pacific waters.



100 J. W. Denton

CANNIBAL WARRIOR OF MALAYTA WITH THROWING SPEARS

Malayta is the most renowned island of the Solomons for cannibalism and for producing very fine spearmen. Notice that the shafts of these weapons are thickest near the head, showing that they are throwing spears, though they are also used for thrusting. On the warrior's chest a piece of mother-of-pearl proclaims his high rank.



167 W. N. Beaver

CAT'S-CRADLE IS ONE OF THE OLDEST GAMES IN THE WORLD

Children play cat's-cradle in almost every country on the earth, and since it has spread so far it must be very old. This happy little fellow lives by the Fly River in New Guinea among some of the wildest savages in the world, and if you examine his string you will see he is about as good at the game as anyone. Could you beat him?

By nature the Paumotuian is quiet and serious-minded, very unlike the joyous-hearted Tahitian. This is the result of his surroundings. Thus his range of food is small, the usual diet being coconut and fish, for every lagoon is stocked with fish beyond number. In addition, at certain seasons, there is the fear of the cyclone which sometimes rages through this part of the ocean. Whole populations of islands

have been wiped out at times by these visitations, their houses and other possessions being completely destroyed.

Still in Polyhnesia, we may notice next the Marquesas Islands, a large group which belongs to France. Very beautiful are these, the biggest of which is Nukahiva; here the tropical trees and shrubs with their glory of blossom vie with those of any other South Sea island. A



CARRYING HOME STRIPS OF BARK TO MAKE CLOTH IN THE LOVELY ISLAND OF TAHITI

Among the French colonies in the South Seas are the Society Islands, of which the largest is Tahiti. The photograph shows the eastern part of the island, where the River Vaitapua winds to the north-east coast through beautiful scenery. Sharp edged ridges and rugged hill-tops made by old volcanoes stand up above the thick forest of palms. In places there is a tree called the paper mulberry; the man is carrying bunches of its bark back to his village, where the women will beat it into cloth, as they are seen doing in page 175.



Sir Basil Thomson

TURTLES FOR THE TABLE OUTSIDE A FIJIAN GRASS HOUSE

Great turtles swim in the seas round the islands of Fiji and come up on to the beaches to lay their eggs. Turtle meat is delicious and a favourite dish with the islanders. The tastiest portions are the greenish jelly from the back and the yellowish-white flesh from the stomach. These tit-bits are called respectively calipash and calipee.

plant peculiar to the Marquesas is the "cassi," a bush bearing yellow flowers; this sweet-smelling shrub is in bloom every month of the year, and the fragrance of its pollen, which is blown far out to sea, can be smelt long before land is touched.

It was in these islands that tattooing—an art practised widely throughout the Pacific—reached its artistic height. The Marquesan has always been a splendid type of physical fitness; he is tall, muscular and well-proportioned, with pleasing features. In past days he was among the most warlike of the islanders and addicted to cannibalism, but to-day he lives peaceably with his neighbours. As a warrior he delighted to tattoo his body from head to toe, and nowhere else were such elaborate patterns devised.

The chief professors of the art, the "tuhukas," belonged to a guild of a most exclusive kind and ranked next to the chiefs. At festivals an assembly used to be held that was much in the nature of a country fair. People came in from

distances to feast and make merry, and be tattooed, or to have repairs done to their already decorated skins. Often the full adornment of a man was not complete until his thirtieth year. Under French rule, however, tattooing has been stopped.

In the Marquesas Islands the "tapu" convention has ever been strong. A "tapu" (from which we have got our word "taboo") is a prohibition. It was "tapu" for a woman to enter a canoe, to wear red or dark-blue clothes, to smoke inside a house, to carry a mat upon the head, and so on. Women might not eat in men's company. Certain animals and fish were "tapu"—that is, no one was allowed to kill and eat them. As a rule "tapus" were regarded as sacred and very few people were foolhardy enough to risk breaking one. In the case of the canoe "tapu," this was ultimately set at defiance by some daring women, and the prohibition, once broken, was never put in force again. Similarly these brown-skinned suffragettes obtained freedom for



J. W. Collinson

AN ISLAND CHIEF in the Solomons wears, with savage dignity, a strange necklace of porpoise, shark and dog teeth and upon his head a polished disk of tortoiseshell.



APPARELLED FOR WAR, the Samoan makes himself look fierce with a collar of sharks' fangs and a weird head-dress. His kilt is made of mulberry bark and called a lava-lava.



BEGINNERS AT BASEBALL ON ONE OF THE AMERICAN ISLANDS OF SAMOA

The Samoan Islands belong partly to the British Empire and partly to the United States. The Samoans themselves are very fond of outdoor games and quite ready to copy new ones from abroad. Thus, in the American islands, baseball is popular, and if the players do not possess the proper outfit they very cheerfully make their own substitutes. Instead of the diamond shaped "plate" these men have a stump for a wicket. The famous author, Robert Louis Stevenson, has described how the natives used to play cricket with 100 men a side.



FIJI GIRL ENJOYS THE RARE LUXURY OF A FINE MIRROR

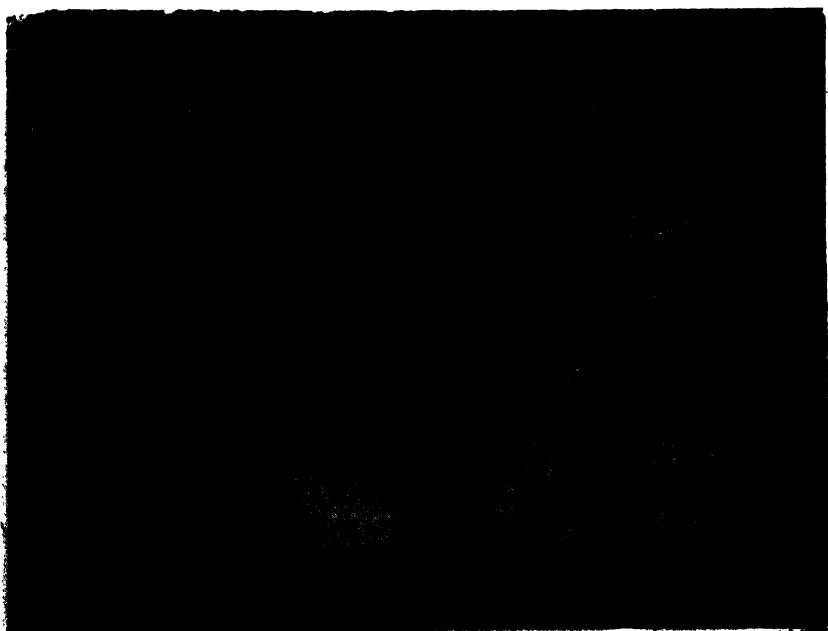
Girls of Fiji have very curly hair and it takes a great deal of combing. The combs used are made of wood and the teeth have to be six inches long to reach the roots. The girl in the photograph was taken on a trip to England, but when she returned she very sensibly preferred to keep to her native way of dressing, which is best suited to the climate.



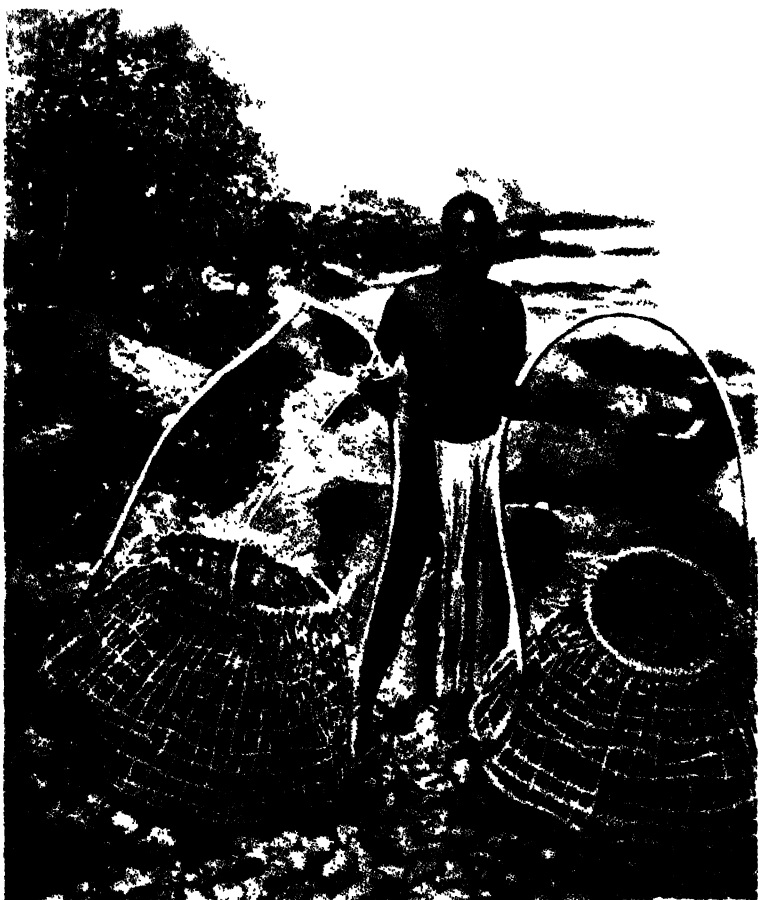
J. J. McManus

OCEAN ISLAND is one of the Gilbert group, which lies across the Equator and together with the Ellice Islands forms a colony under the rule of Great Britain. Like all South Sea Islanders, the inhabitants love to dance. Here their wide skirts, put on specially for the

ceremony, are of palm leaves and their sugar-wood hats of plaited leaves while feathers decorate their wands. The island only six miles round—is yet a valuable possession because of the phosphate of lime found there. This is a mineral widely used as a manure for crops.



TAPPA AND KAVA are two native names connected with industries peculiar to many of the islands of the South Seas. "Tappa" is a cloth made from the bark of the paper-mulberry, and in the upper photograph we see it being beaten out on wooden blocks by women. "Kava" is a drink made from the root of a kind of pepper plant, which the women below are shredding.



Thomas McMahon

CANE FISH-TRAPS IN THE NEW HEBRIDES

On the beach of Tanna Island in the New Hebrides archipelago, which lies between Fiji and the east coast of Australia, one may see great fish-traps of basket work that look like the lobster pots of our own coasts. Bait is put inside and the trap is left in the sea all night. In the morning it is hauled up quickly before the fish can escape.

themselves to eat bananas and pig, both of which no Marquesan woman had tasted for the past thousand years.

In that quarter of the Pacific known as Melanesia, where the people are darker in hue and less civilized by contact with the whites, New Guinea and the Solomon Islands call for most attention. In the former island the natives raise their houses well above the ground, a safeguard from

reptiles and human enemies. On the sea coast the villages are built on piles, as is seen from one of the illustrations. There are many "long-houses," in which a number of families live, and there are also, in places, what may be termed club-houses, where gatherings are held and where strangers to the village are entertained.

In the Solomons the islanders have had an unenviable reputation for fierceness, but

SUNSHINE ISLES & SAVAGES

traders and missionaries have now obtained a firm footing there. While, like the Papuans and others, they wear little clothing, the Solomon natives are very fond of ornaments. The picture given of an island chief with a necklace of shark and dog teeth, with earrings and arm and leg bracelets, is typical of this weakness for self-adornment. With the women tattooing is the height of fashion.

Another characteristic of these islanders is their love for dancing. To such a pitch has this art been developed that parties of professional dancers make a tour of the islands, giving performances of the traditional dances of the tribes.

As becomes a warlike people the canoes of the Solomons are a special pride, their

beautifully decorated sides and prows making them very distinctive. In the island of Malayta the war-canoe is something more than an object of beauty and curiosity, for here live the wildest natives of this group, who still make sea-raids on their neighbours. They are still cannibals.

The peoples of the New Hebrides, New Britain, New Ireland and the Loyalty, Marshall and Gilbert Islands are less friendly to strangers than are the Polynesians. They are a more forbidding and ugly type, too, and their customs are generally debased in character. One thing to note in the New Hebrides is the abundance of the pig. This animal, indeed, is the common currency of Melanesia. A wife is bought for so many pigs.



American Field Museum

ROAST PORK FOR A FAMILY FEAST IN FIJI

For many years the Fijians were celebrated for their cannibal banquets, their taste for human meat being so great that they would even eat their own relations. Human flesh they called "long pig," but since the British do not permit cannibalism, they content themselves with ordinary pig. From experience they are fine cooks.

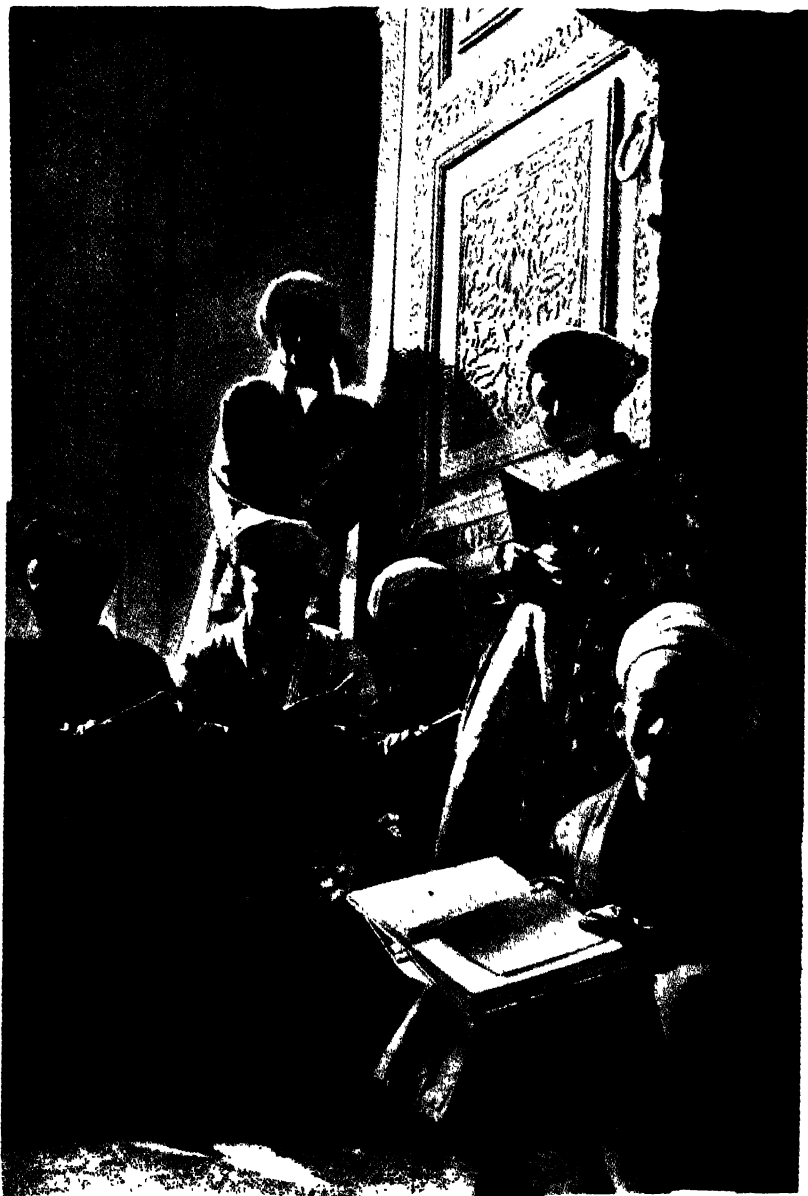


SAMARKAND, the capital of its province and a most ancient town, of which we first hear in 329 B.C. when it was destroyed by Alexander the Great, lies by the Zarafshan River, some 160 miles north of the Afghan border. No other city has by its name alone so stirred the imaginations of men, ever since the days of its magnificence in the fourteenth century under Tamerlane. It has since been overshadowed by Bokhara, but in 1868 it was taken by the Russians and a modern town built beside the old one. This scene is in a mosque courtyard.

D. Carstairs



--another of those Eastern cities of ancient glamour--lies in the north-west, an expanse of flat, grey-brown roofs relieved by the towers of mosques and colleges. This one, from which criminals used to be thrown, has been damaged by the Bolsheviks.



PORING OVER SACRED BOOKS IN BOKHARA

"In Islam there are no monks," said the prophet Mahomet, and he forbade as well the forming of a priesthood. But to-day the "mullahs" are priests in all but name. They are trained to their calling from earliest youth, and nowhere more carefully than in the old lecture-halls of Bokhara, a seat of learning famous throughout the whole Mahomedan world.

A Glimpse of Turkistan

AND ITS CRUMBLING CITIES OF OLD RENOWN

It is a pity that, as we grow older, things which have stirred our imagination and thrilled us with the feeling of romance sometimes lose that quality. When I used to read in boyhood of the caravans that traded with Samarkand in olden times and what a wonderful city that was, its marts crowded with adeers in silken fabrics and lovely carpets—"Golden Samarkand," it was illed—I longed to adventure into that corner of Asia. But having since met various travellers who have stayed for long periods in Turkistan and have visited Bokhara and Samarkand itself, I know from them that the old glamour of these places has long since passed away and that they have little beauty and much dirtiness to-day. Their inhabitants, however, are strange and picturesque folk, as our photographs will show, and it is worth our while to learn something about them and this rude land of Asia which was once so very much more famous than it is now.

STRETCHING far away from the Caspian Sea and Persia on the west to the borders of the Chinese Empire on the east lies the vast country of Turkistan. That portion of it which is known as East Turkistan is subject to Chinese rule; what we are concerned with in this chapter is Western, or Russian, Turkistan.

It is a large slice of Asia, this, with an area of over 600,000 square miles, and it has a history that goes back quite 10,000 years. Tartars from the north, from Siberia and Russia, overran it in those bygone centuries, as also did the Mongols from the north-east and the Turks from their land in the west.

Turkistan, like many another part of Asia, has been a fierce battleground for the wild tribesmen of that region. Emir and Khan, one after another, rose in power and held sway until a stronger leader came to wrest supremacy from their hands. The greatest of these Asiatic kings was Timur Beg, better known as Tamerlane, who made himself master of Samarkand, Persia and neighbouring provinces, was even proclaimed Emperor of Hindustan, and was actually on his way to invade China with his victorious armies when death overtook him.

The Glory of Golden Samarkand

It was at Samarkand, the "Golden Samarkand" of the Oriental poet, that Tamerlane held his court. Magnificent as it had been before in the great age of Moslem culture, the city attained to fame

and glory once again under this mighty ruler of Turkistan.

What have the changing centuries brought to this old Asiatic empire? As Tamerlane's kingdom crumbled away it was parcelled out among lesser Kings and Khans, this race and that successfully winning its independence. So in time we find that the Turcomans gathered themselves into the country between the great river Amu Daria (the Oxus of the ancients) and the Caspian Sea.

How Soviets Rule Turkistan

The greater part of this western portion of Turkistan is desert, but here and there oases occur and the land has become extraordinarily fertile. At Merv, for instance, in the heart of the Turcoman's country, there is the largest area of cultivated land in the whole province. The climate is well suited for cotton growing and many thousands of acres are given up to this industry. Elsewhere were established the khanates, or petty kingdoms, of Bokhara and Khiva.

In the last century—from 1865 onwards—Russia laid hands upon Turkistan, and bit by bit this extensive country was absorbed by the greater Power. At the present time Turkistan belongs to the Union of Soviet Republics, being divided into five provinces—Syr Daria, Ferghana, Samarkand, Semirychensk and Transcaspia—each of which sends representatives to the Central Executive Committee at the capital, Tashkend. From this body there are appointed representatives who,



THE TOWN OF MERV lies over against the borders of Persia in that part of Turkistan which is now an "Autonomous Socialist Soviet Republic" leagued with the other Soviets of Russia. Its province is called Transcaspa, for it forms the eastern shore of the Caspian Sea

Most of it is barren desert, but Merv itself is surrounded by a very fertile oasis. Within its walls, fire carpets such as these are made, which can be exported by the Transcaspiian Railway via Bokhara and Samarkand to the luxurious shop windows of London and Paris

M. O. Williams



Lieut. Col. J. J. Alverton

the Karakoram range and the Hindu Kush. "Pamir" really means a valley between two of the ridges, but these valleys are themselves nowhere less than 10,000 feet above the sea. Through them roam the Kirghiz, the only dwellers in this inhospitable region

THE ROOF OF THE WORLD is the picturesque name which man has given to that huge, bleak knot of mountains known as the Pamirs, lying between Afghanistan, Turkistan and Sin-kiang. From it run some of the earth's mightiest mountain chains, such as the Himalayas,



TOBACCO BOUGHT BY THE PUFF

Tobaccoists' shops in Khiva are a simple matter. A man just wanders about with a lighted water-pipe, which allows the smoke to bubble through water, and sells his wares to passers-by at so much a puff!

in turn, go up to attend the Soviet Councils in Moscow.

Both the former khanates of Bokhara and Khiva have suffered the same fate. After revolutionary outbreaks, and invasion by the Russians, these two states passed under Soviet rule. They are now linked together to form the Socialist Republic of Uzbek.

All this historical survey is necessary to enable us to understand what modern Turkistan is like. The country has altered little since those long-past days when Tartar, Mongol and Turk ranged over its mountains and plains, when "Sultan after Sultan, with his pomp, abode his hour or two, and went his way." And in some respects the peoples themselves have undergone but little change. Large numbers of them live by raising horses, camels, cattle and sheep, by growing cotton and wheat and fruit, or by working the rich mineral deposits of the country.

Among the peoples in the western part of this group of present-day Soviet

Republics the Turcomans are the most important. Mahomedans by religion, they are akin to the Beduins in the nature of their life, for they have regular camping places and move from one pasturage to another according to the season. Turcomans were always nomads, and they were always dreaded by their neighbours for their fierceness. They plundered ruthlessly, waylaying the rich caravans of the Persian traders. Out of this arose a great trade in slaves, but the Turcoman's activities in this direction have been checked by the Russians.

In his baggy cotton trousers, his outer garment of coloured material (something like a wide-sleeved dressing-gown) which conceals the usually coarse shirt, and with his high-heeled boots,

the Turcoman is a striking figure. Complete his costume with a shaggy high hat, of the busby shape, made of sheep's wool, and a gaudy scarlet sash, and you have the ordinary tribesman of the plains. In the case of the better-class Turcomans, those who are counted wealthy in flocks and herds, the common garments give place to richly embroidered robes, while the trappings of their horses and camels are splendidly adorned with gold and silver and precious stones.

Their womenfolk like to wear quantities of jewelry, and display many bracelets and anklets. In place of the sheepskin or felt hats of the men they cover their heads with cotton cloths, much in the form of a turban, and these head-dresses, too, will be plentifully decorated with silver ornaments and coins. It is said that one judges the wealth of a Turcoman by the amount of silver worn by his wife. Like the Beduins, to whom they have been compared, this people leave a great deal of manual work to the women, for which

A GLIMPSE OF TURKISTAN

reason the latter age quickly. The women go unveiled, like the Beduins again, but unlike the women of nearly all other Mahomedan countries.

There are Turcomans who settle in towns and villages, in which the houses are simply built of mud and stone. But the majority, true desert wanderers, live in tents—"kibitkas" they are called—which are made of braided willows and covered with felt. If we look into one of these tents we shall see that the furniture consists of a carpet on the floor and several brilliantly coloured rugs hanging on the walls, together with cloaks, embroidered garments, saddlebags, bridles and other articles. In one corner is a wooden chest, which contains the women's clothing and other gear. During the winter-time a fire burns in the middle of the tent, and as there is no chimney and the smoke has to

find its way out as best it can the atmosphere is none of the pleasantest.

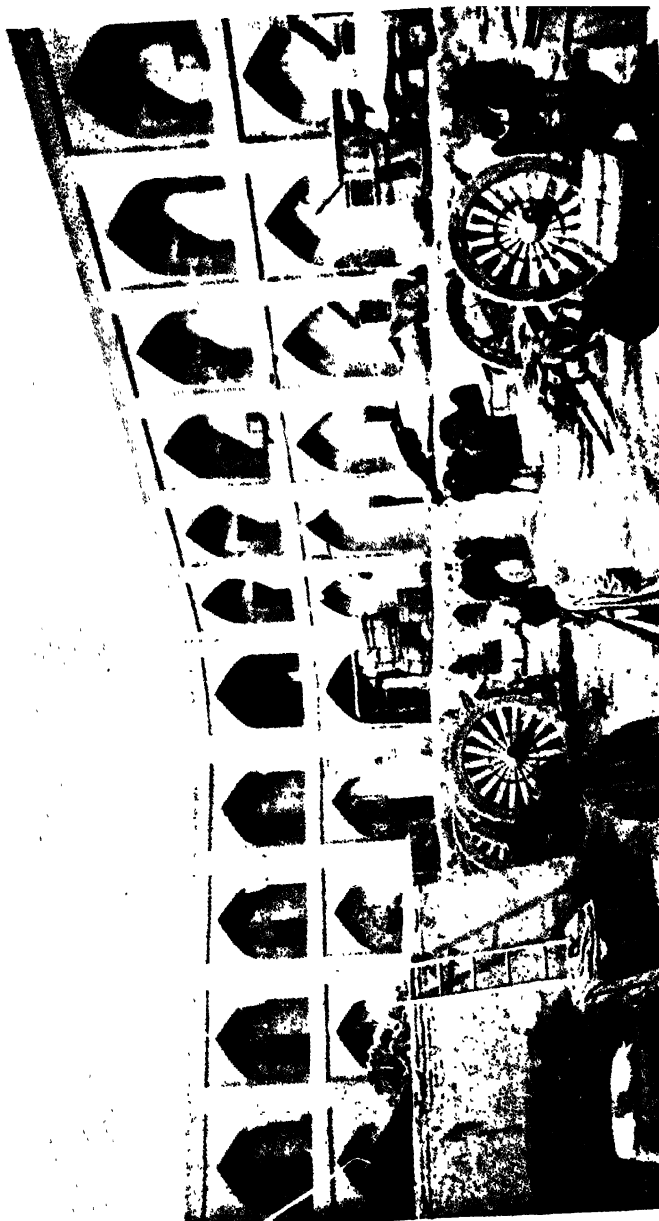
Summer-time on these western "steppes," or plains, is endurable, though often very hot; in the winter, especially when the weather is severe, the conditions of life are very hard. Terrible blizzards storm across the desert, often destroying flocks and herds and human beings as well. In January the temperature may easily go down to 20° Fahrenheit below zero. We can get some idea of the intensity of the cold from the description given by Colonel Burnaby in his famous "Ride to Khiva." The nostrils of the horses, he says, became blocked with ice, and cabbage soup froze solid when it was made; it had to be carried on camel-back and broken off in chunks when wanted.

It is desert country, this western region, as has been said, but it is made habitable



STICKY LUMPS OF SWEETNESS ON SALE IN KHIVA

The town and province of Khiva are to-day joined with Bokhara to form a Soviet state. Up to the Russian occupation in 1873, however, it was a powerful "Khanate," but after that it was of little account, and its Khan, or prince, was finally deposed and expelled in 1919. In its dusty air the seller of sweetmeats is always popular.



IN A CARAVANSERAI OF RUINED URGENJ, THE ONE-TIME CAPITAL OF KHIVA

The caravanserai is the hotel of the East. In its dirty central court we are in Urgenj, which lies on the Amu Daria River, known to the ancient Greeks as the Oxus. It is now half ruined, but was once the rich capital of Khiva, with merchants and factories and shops and no fewer than fifteen mosques, while produce filled its markets. the horses and camels are tethered and fed and huge-wheeled native carts or "arabas" stand about, while in the rooms, that open on to the galleries round, the travelling merchant sleeps and stores his bales



Sirdar Ikhbal Ali Shah

CHARMS AND TRINKETS OF A BOKHARA BEGGAR WOMAN

In the East their views on beggars differ very much from ours. Thus it is almost an honourable profession to beg, for everyone claims a share in others' prosperity. So a beggar in return for alms will bless the giver, but will not thank him in the proper sense of the word, for has he not received what is only his due?



MELONS AND WATER JARS TO REFRESH THE THIRSTY SCHOLARS OF A BOKHARA COLLEGE

As in Khiva, the Bolshevik rising led to the overthrow of the Emir of Bokhara, who is now in exile in Afghanistan, and the setting up of an independent type of Soviet state, the Republic of Uzbek. The people who have chosen to try this strange European experiment are more Mongolian cast of face are Uzbeks, who form the ruling class.



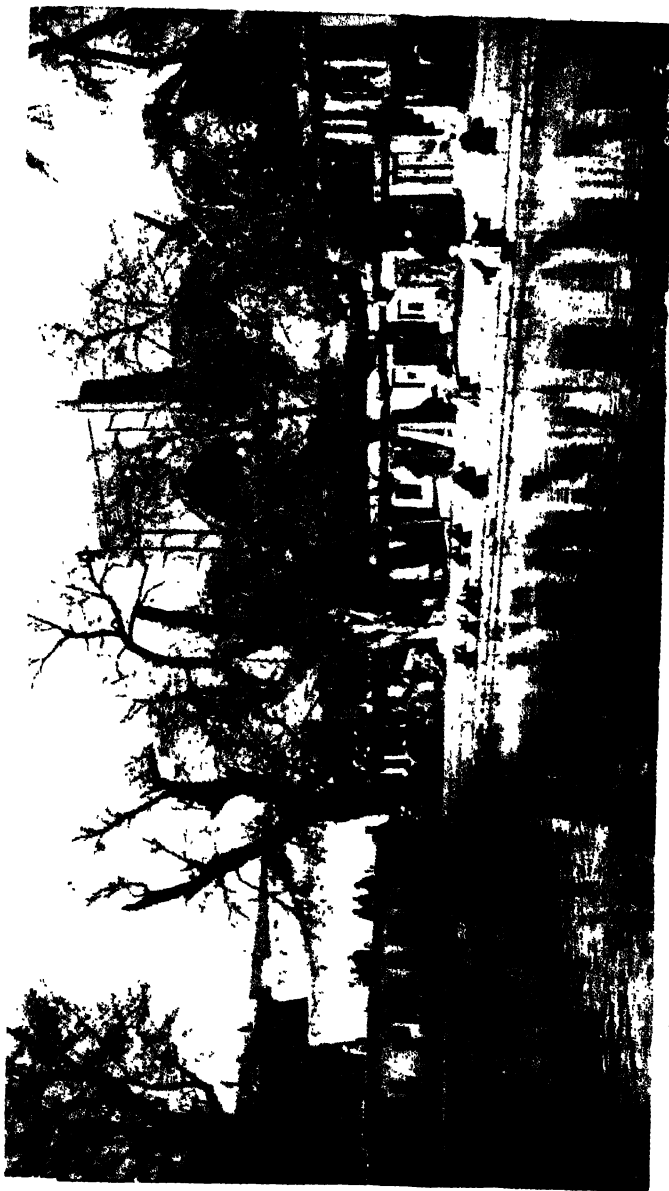
WHERE RICH MERCHANTS OF BOKHARA BUY AND SELL THE SKINS OF THE PERSIAN LAMB

Not only is Bokhara a "university town," a sort of Oxford or Cambridge of the East, but it is also an extremely important trading centre. Fine carpets are made at its looms and sold in its bazaars, together with copper and other metal wares, and especially "caracul," "black-eared," and so can also be applied to the Persian lynx fur—this is the place where the last is marketed. Caracul, or caracal, is the name for the prepared skin of the Persian lamb; when it is dyed black it is known to us as astrakhan. The word means simply



CHATTERING AND BARGAINING IN A MARKET OUTSIDE ONE OF BOKHARA'S COLLEGES

It cannot be said that the present population of Bokhara—thought to be about 70,000—takes over-much care of the beautiful buildings that still remain. The time from which they date, between the fourteenth and sixteenth centuries, was one of wealth and magnificence that have since vanished, and furthermore, the inhabitants are in many ways different and less artistic owing to repeated invasions from the east. Thus the lovely coloured tiles are crumbling unchecked from off this madrasah, or college, which is only one out of well over a hundred.



TANK OF DIRTY WATER THAT IS BOKHARA'S CISTERN, LAUNDRY AND BATH

One of the great disadvantages of Bokhara is its water supply, which is very bad. The main water cisterns are in the citadel, an enclosure one mile round bordering the Kightistan, or square; but for ordinary purposes the citizens also use this tank in the centre of the town to the left—the roof of a house in the East serves as its balcony

D. Carothers



D. Carruthers

FINE BAG FOR THE SPORTSMAN IN BOKHARA

Turkistan boasts one of the largest kinds of sheep, almost the size of a small donkey. It lives up in the Pamirs, and is known as the Ovis Poli--ovis is Latin for sheep, and "Poli" refers to that famous Italian traveller, Marco Polo, who voyaged here in the thirteenth century, and was the first European to see the animal.

by the presence of oases. A Turkistan oasis consists of wide fields of wheat, oats, cotton and grass, well watered by streams from a near-by river, or by wells and irrigation ditches, and broken by groves of locust trees, with their sweet-smelling blossom, and orchards and vineyards. It is a paradise set in a stony wilderness. The soil here is usually very rich and it can be made to produce—as at Merv—fine crops of wheat and cotton. At one time Turkistan was quite a large wheat-growing country; nowadays cotton is cultivated as yielding greater profit.

Two other peoples of the original Turki race go to make the five-million population of Turkistan. These are the Kirghiz and the Uzbeks. The first-named are themselves divided into the Kazaks, or Kirghiz-Kazaks, and the Kara-Kirghiz. Both tribes dwell in the eastern portion of

Turkistan, their features showing plainly their Mongolian origin. They are a short people, with round, dark faces and small, keen, black eyes which look at one from beneath tightly drawn, slanting eyelids. The Kazaks are the lowlanders, the dwellers in the northern and eastern steppes, and are shepherds and herdsmen; the Kara-Kirghiz are the mountaineers, the highlanders, their home being in the Pamirs and huge Tian Shan range, the Celestial Mountains.

By religion Mahomedans, like other Turkistan peoples, the Kirghiz shave their heads, but allow their beards to grow. Their costume resembles that of the Turcomans, the baggy breeches being of leather, however. A coarsely made shirt with a wide-striped collar and an over-tunic of the dressing-gown pattern are worn, together with the usual tall hat of sheepskin.

A GLIMPSE OF TURKISTAN

The Persian name Kughiz, it may be noted, means "forty daughters." In the tradition of the tribesmen, it was a son of Noah who settled in Turkistan after the Flood, and this son was the father of forty daughters, from these the Kirghiz believe themselves to be descended, and hence their name.

The Uzbeks, who, with a race known as Tajiks, are found in most parts of the country, are a light-complexioned people. The men wear turbans of white linen, and their principal garment is the "khalet," a long, flowing coat dyed in brilliant colours. With the Uzbeks, it is the custom for the women to wear a veil from an early age, no one but a husband, a son, or a very close relative being permitted to look upon their faces.

With a brief mention of the Tajiks, who lay claim to Arab descent, we may conclude this description of Turkistan's principal peoples. Actually they originally

hailed from Persia, and, apart from physical characteristics and similarities in language, this is shown by their typical Persian aptitude for trade. They are the merchants of the province, and their reputation is one for cunning and greed. The intellectual superiors of the Uzbeks, the Tajiks congregate in the towns, while the majority of the former follow agriculture and kindred industries.

And now, what of the cities of Turkistan, those strongholds of other days, which have witnessed such stirring events in the whirligig of time? First of all, let us take a peep at Tashkend, the present capital. As a map shows, it lies on a branch of the River Syr Daria, with great mountains at its back. There are two cities actually—the old native city, inhabited by a people known as Sarts, and the modern Russian quarter. Thanks to the care exercised by the Russian conquerors Tashkend has been beautified



Maynard Owen Williams

HOW THE FUTURE IS FORETOLD IN THE STREETS OF KHOKAN

The great Tian Shan range forks towards the west like the pincers of a lobster's claw, and in between lies fertile Ferghana and its capital, Khokan. Water comes down from the mountains, so that cotton grows abundantly, and trees shade this square, where a blind man is telling fortunes by throwing little piles of pebbles.



Miss Hunter

MARKETING HORSES BEFORE THE COLLEGE OF BIBI KHANYM

Samarkand is mostly a maze of dirty, narrow streets, but unlike cities in other parts of the East it has open squares, of which the Righistan is one and this, where the great horse market is held, another. The domed college behind was built by Bibi Khanym, Tamerlane's Chinese wife, in 1388. Horses and asses form a large part of Samarkand's trade.

by many groves of trees and large gardens. One special feature of the capital is the market. The bazaars of Tashkend are declared to be the finest in the world, rivaling even those of Cairo. To its shops come all the treasures of the East, the beautiful carpets, the richly embroidered cloths and the delicate silver and brass ware of the skilled workers in metal. Among the frequenters of the bazaars a familiar figure is the sherbet-seller, who goes about in the crowd with a tank on his back and glasses in his hands. He makes his approach known by rattling the glasses together.

If Bokhara is not so large and important as Tashkend, it is, nevertheless, a great commercial centre. Into this old-world

city pour the camel caravans from China, India, Afghanistan and Persia, loaded with their precious freights of tea, silk, furs, dyestuffs and other goods. These are the caravans which, in past years, were pounced upon by the rapacious Turcoman. From Bokhara they go out again with cotton, ironmongery, sugar, coffee and other commodities, which have been mostly obtained from Russia.

As a leading trading centre Bokhara is noted for its carpets. The finest in the world are exhibited here. Another particular feature of its market is "caracul" fur, this coming from the prepared skin of the Persian lamb, or, sometimes, kid. In its dyed form we are familiar with it under the name of astrakhan.

A GLIMPSE OF TURKISTAN

But Bokhara has another claim to distinction besides that of commerce. It is a University town, a home of learning, and has been so for more than a thousand years. At one time the city could boast of 197 mosques and 167 "madrasahs," or colleges, most of which have fallen into decay. There are, however, many religious and educational buildings in Bokhara that are still in use.

The most famous mosque is the Masjid Kalian, dating back to the tenth century. It was into this mosque that Jenghiz Khan, the great Asiatic conqueror, rode in defiance of the mullahs, or priests. He dismounted, went up into the pulpit, and threw the Koran on the floor, shouting to his followers as he did so: "The hay is cut! Give your horses fodder!" This was the signal for the savage Mongolian soldiery to begin a dreadful massacre and to loot the city.

One of our pictures shows the outside of the Mir Arab, the chief college of

Bokhara. Here are to be seen types of the two leading races of people, the bearded Tajiks and the Uzbeks with their more Mongolian cast of features. In these colleges are educated the mullahs, who are trained to their calling from early youth. Each one has a cell assigned to him in a "madrasah," and each has a certain class of pupil to instruct in the Uzbek language, or it may be in Arabic, in the Koran, in astronomy and in other languages and sciences.

A class of boys in a Bokharan school is a noisy one, for in the East it is held that the mind acquires information more readily by hearing than by sight. The young students study aloud, therefore, and a perfect babel follows; the louder the boys shout their lessons the better the master pleased.

As has been told, Khiva has been joined up with Bokhara to form a Soviet Republican State. It is an ancient province of Turkistan, this Khiva, for it dates back



Miss Hunter

MANY-COLOURED PORCH OF A SAMARKAND COLLEGE

Turquoise-blue is chief among the peacock colours of the tiles decorating the three colleges that stand round Samarkand's "Righistan," or central square. Such colleges are called "madrasahs," and are still famous for their schools of science and religion.

This is the college of Shir-dar; the other two are Ulug-beg and Tilla-kari.



Maynard Owen Williams

PERSIAN COBBLER AT HIS BENCH IN ASKHABAD

Ashkhabad is one of those towns of Turkistan that have become very much "Russianised" since the conquest by Russia in 1881 of Transcaspia, of which province it is the capital. For instance, it has a museum and a technical school. But there is also much that is Persian about it, such as this wayside cobbler who hails from over the border.



Maynard Owen Williams

TURCOMAN HAWKING A SPLENDID BOKHARA CARPET

Turcomans may be distinguished from other peoples of Turkistan—Tajiks, Uzbeks, Kirghiz—by their sheepskin head-dress worn like a busby. The Tajiks, who are the oldest inhabitants, are of Persian race and so akin to Europeans, the Turcomans are an Eastern people and look like modern Turks, while Kirghiz and Uzbeks are more Chinese in appearance



Sir Percy Sykes

STRUGGLE FOR THE "BALL" IN THE ROUGH GAME OF BAIGU

In the Pamirs they play a game called "baigu," something like a mixture of polo and Rugby football, only that the ball is a headless goat! Mounted on unshod horses, the players struggle to pick up the goat, whoever succeeds must then gallop round a post and back with it, while the rest of the field races after and tries to prevent him

to the first and second Persian empires and to the days of Alexander the Great, whose armies were in the country more than two thousand years ago

In the town of Khiva are some thirty mosques and twenty "madrasahs," for so important a place cannot be without its colleges. Khiva is the present capital, but formerly that distinction belonged to Urgenj, in the markets of which were sold the corn, cotton, rice, tobacco and other products of the rich province, as well as the splendid breed of horses for which it was famed.

Page 186 shows a caravanserai, a hotel of the East. In the central court are the horses and camels, with the large-wheeled "arabas," or native carts. Up above, in the encircling galleries, are rooms wherein the travelling traders sleep and store their bales of goods.

Ferghana is another province of Turkistan, its chief town being Khokan. It lies in a fork of the great Tian Shan mountain range and is a very fertile and fair

country. But of all places in Turkistan there is none that appeals more to the imagination than does Samarkand. The town of this name was in olden time the capital of Asia; it was as important a city then in the East as London is in the West to-day, its splendours were unsurpassed and were extolled by historian and poet alike.

"Golden Samarkand" could not attain to such a height of glory without paying the usual penalty of those times, it was attacked, destroyed and rebuilt over and over again, and in the course of years much of its beauty and greatness passed. To-day it is a city of considerable size, with a trade in horses and asses; but, except for a few open squares, it is composed of narrow, ill-kept streets. Prominent among its buildings are the three "madrasahs," seats of learning which are still famous throughout the province. The fronts of these colleges are beautifully decorated with coloured tiles, turquoise blue being the chief colour; but like so much in

A GLIMPSE OF TURKISTAN

Turkistan to-day they are being allowed to go to wreck and ruin.

Apart from these survivals of the past, the "madrasahs" and mosques, Samarkand has scarcely anything to show of its former splendour. In the city where Alexander and Tamerlane in turn held sway are mean-looking houses, some of mud; and the rich trains of merchandise that once found their way thither by horse, mule and camel have long since turned their steps to Bokhara, to Tashkend and to the other, newer cities of the Russians.

One last feature of Turkistan—not the least notable—remains to be mentioned. This is the great mountain range known as the Pamirs, or "the Roof of the World." From this bleak, craggy tableland run

some of the mightiest mountain chains on earth, such as the Himalayas, the Hindu Kush, the Karakoram, the Tian-Shan and the Trans-Altai.

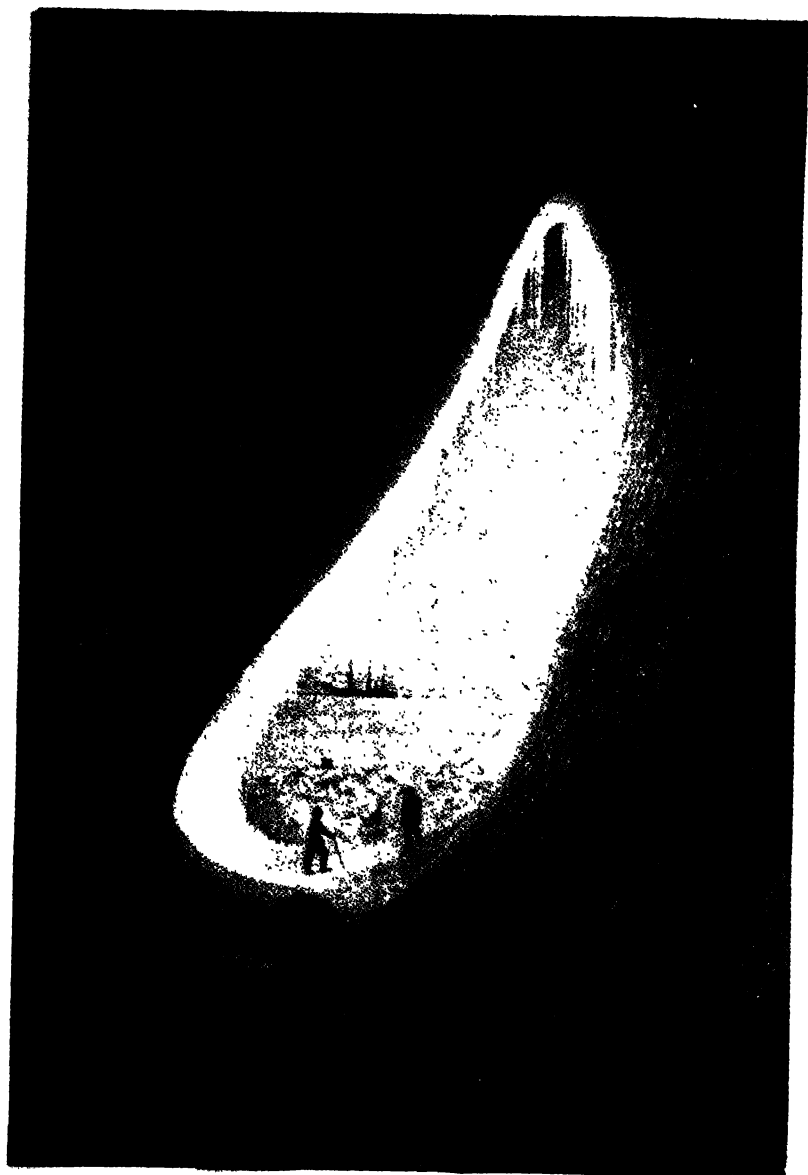
It is as wild a region as can be found anywhere, and the fascination of it has drawn many famous travellers thither since Marco Polo crossed it on his way to the court of Jenghiz Khan. Here is to be found the great-horned mountain sheep, the "Ovis Poli," whose head is reckoned as one of the finest of sportsmen's trophies. And on these mountain slopes and in the valleys the Kirghiz hillmen pasture their flocks. For many years past the Pamirs have been occupied by Russia, and the present borders of Russia and Afghanistan have been settled to run across "the Roof of the World."



Sir Percy Sykes

YAK BEING LOADED BY KIRGHIZ TRIBESMEN

The yak, whose scientific Latin name means "grunting ox," is a shaggy-haired beast which only lives in the high, cold regions of Tibet and the Pamirs, for it cannot bear warmth. In the wild state it is brown but there are domesticated breeds which are black; these are used as pack animals and even in Sin-kiang or Chinese Turkistan, which we are to visit in another chapter, as mounts for a force of cavalry.



CAPTAIN SCOTT'S SHIP FRAMED BY AN ICEBERG CAVE

Take. inside a huge rift in an iceberg, this photograph was only obtained at the risk of the photographer's life. It was summer-time and the ice was partially melting. At any moment the balance of the iceberg might have altered and the whole thing turned over, drowning the men on it. This is probably the most wonderful ice photograph ever taken.

The Great White South

WILD LIFE IN THE COLDEST CORNER OF THE WORLD

The events in our lives which we most often recall are usually at the time of happening not very remarkable. One night in 1910, when I was at a farewell dinner to Captain Scott, I little thought how close we were then to one of the great heroic events in our history—the tragic death of that most gallant explorer and his companions who reached the South Pole. In a casual way, too, Sir Ernest Shackleton took me and two other friends over the "Quest" a day or two before he set out for his last fatal journey. What impressed me in both these fine sons of Britain was the fact that they joyously faced danger in the true spirit of adventure from which all sense of personal gain was absent. It is a spirit we must never let die.

The photographs in this chapter were taken by Mr. Herbert G. Ponting

AN inhabitant of Mars, looking at the earth through a telescope, would see no great difference between its two Poles, for both would, at all times of the year, appear to him as circles of white. The only difference he could notice would be that the circle at the southern end was rather larger than that in the north.

Yet to us, now that both Poles have been reached, and the Arctic and Antarctic regions to some extent explored, the difference is very

great indeed. The Arctic is a deep ocean with large land masses surrounding it, while the Antarctic is a continent surrounded entirely by deep sea—a fair-sized continent, too, for its area is reckoned at something over three million square miles, or, roughly, the same size as Australia. The Antarctic continent has another peculiarity: it is the highest land mass on the globe, much higher than Asia,

which stands second in this respect. All the interior is a vast tableland rising to 9,000 feet above sea level and with chains of mountains much higher than that.

It need hardly be said that this is the coldest place on earth's surface. In the Arctic rain falls at times during the short summer, but in the Antarctic the only fall is of snow, usually fine dust like dry sand, and the wind is hardly ever still. At most times it blows what in England would be called a heavy gale, but often it rises to hurricane force.

The fury of these Antarctic gales is appalling. When the Swedish Expedition of 1902-03, under Dr. Nordenskjöld, camped on Snow Hill Island, they chose a site for their station which they believed would be sheltered from the worst of the wind. Yet a gale from the southwest picked up a large bag of heavy fossils which had been left outside the hut, and blew it



QUAINTEST BIRDS OF ANTARCTICA

The penguin is black and white when full grown, but the chicks are grey, with dark heads. The feathers are scaly in appearance, and the wings, here outstretched to scare the photographer, are used only for swimming.



ICEBERGS IMPRISONED BY THE FROZEN SEAS

Icebergs are pieces of a glacier that has slid down to the sea. The foremost part is buoyed up by the water, breaks into pieces and floats away, and it is these great masses that are so dangerous to shipping. Only the ninth part of an iceberg is visible, the rest being below the level of the water. Part of the coast can just be seen to the left

twenty yards. On another occasion a barrel of bread was blown away, and, later, a big whale boat which had been brought ashore was lifted over a second boat and flung twenty-one yards against a mass of ice. When the boat was examined it was found that the oars had disappeared and that even the zinc plating had been stripped and blown clean away.

This particular gale carried off the wind gauge, hence it can only be said that the air was moving at over a hundred miles an hour! During such gales the Swedish explorers noticed that the air became so charged with electricity that the metal parts of their instruments gave distinct shocks when touched, while the tips of the men's fingers glowed with brushes of light in the dark.

On the rare occasions when it was fine, the sunrises were beautiful beyond description. "At about 10 o'clock," says

Nordenskjold, "a glowing spot begins to be visible on the horizon, and preceded by a perpendicular pillar of fire there rises what should be the orb of the sun, but what, in consequence of 'refraction,' appears to us to be a broad, flaming, moving belt of fire. On each side are two shining, intensely rainbow-coloured belts."

It may be mentioned here that on Snow Hill Island were discovered bones of extinct animals, as well as fossilised leaves of pine trees and ferns, thus proving that at one time this land of ice had a warm climate. But at present the cold is incredible. Even in the summer, when the sun is constantly above the horizon, it is rarely that the temperature rises above freezing point. On January 17th, 1912, when Captain Scott, with Wilson, Oates, Bowers and Seaman Evans reached the South Pole, a day of horrible weather was marked by a temperature of 22° Fahrenheit

THE GREAT WHITE SOUTH

below zero—that is 54° of frost. And what is January in the southern, remember, corresponds to July in the northern hemisphere.

Poor Captain Scott! What must have been his bitter disappointment to find awaiting him a letter from the Norwegian explorer, Roald Amundsen, to say that he had already reached the Pole on the previous 15th of December, 1911. It was on their nine hundred mile march back from the South Pole that Scott and his brave companions perished of cold and hunger. One of them, Seaman Evans, died as the result of a fall. It was Oates who quietly, heroically walked away into the snow to die, hoping to give his leader a greater chance of life.

The whole of this desolate tableland is covered to unknown depths with snow and ice, which have been accumulating for thousands of years, and which are constantly pushing outwards into the sea

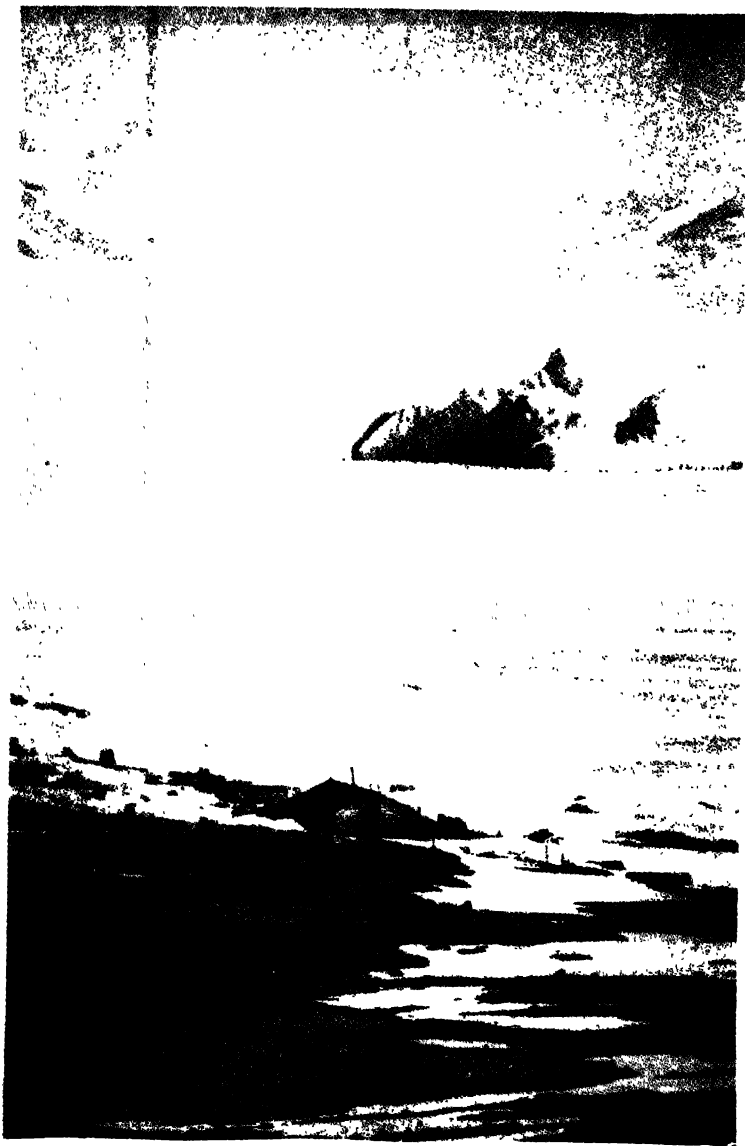
in the shape of enormous glaciers or ice rivers that throw off icebergs of a size unknown in the Northern Hemisphere. In the North Atlantic an iceberg 150 feet high and a quarter of a mile long is considered large, but in 1904 the ship "Zinita" sighted an iceberg off Cape Horn which was 1,500 feet high and seven miles long. Even more startling was the ice island reported by the exploring vessel "Antarctic" in 1896. True, it was only 60 feet high, but it was more than 60 miles in length.

The result of this tremendous ice-flow is that the climate of the Southern Hemisphere is far colder than that of the North. In the year 1775 Captain Cook, the English explorer who discovered New Zealand and charted part of the coasts of Australia, was on his second voyage, during which he went far south. Among other important discoveries made by Captain Cook was the large island of South Georgia, which lies 54° south of the Equator



SHORE ICE CRACKED AND TWISTED BY MEETING A GLACIER

Taken actually on the shore ice—that is the frozen sea off the coast, which is seen in the distance—our photograph shows the damage done by the Barne glacier meeting this shore ice. The resistance to the push of the glacier causes the ice to crack and break up. The man is Captain Scott, who died after reaching the South Pole in 1912.



SEVENTY-MILE VIEW FROM SCOTT'S DEPOT ON ROSS ISLAND-
Captain Scott, when he explored the Antarctic, made his base at Cape Evans, on Ross Island, and the hut which served as depot is seen towards the bottom of the hill. Beyond the frozen Ross Sea in the far distance are the mountains of Victoria Land, seventy miles away. This picture was made by a camera with a telescopic lens.



DOG TEAMS RESTING AT THE FOOT OF BARNE GLACIER

When the Ross Sea is frozen the edge of Barne glacier stands out of the snow-covered ice like a cliff. When the sea thaws again great masses float off as icebergs. One of Captain Scott's dog teams is lying down for a rest on the frozen sea at the foot of the glacier.

Much of the exploring work was done with their help.



IN

THE STILLNESS OF THE FROZEN SOUTH: PENGUINS RESTING ON AN ICE FLOE when birds or seals are near There are ever-changing channels between the floes, or fields of the pack-ice, and the edge of the mainland. Penguins who have been hunting fish in these water lanes are often seen to come suddenly to the surface and get on to the ice in companies.

One of the chief hardships explorers have to endure is the blizzard. The terrific force of the wind, the intense cold that drives through any clothing, and the pelting snow, make it impossible to leave hut or tent. But when the wind is gone complete silence reigns save

THE GREAT WHITE SOUTH

Part of England lies just the same distance north of the Equator, and the latitude of Georgia corresponds with that of the County of Durham. But the contrast between the two climates is amazing, for, says the great sailor in his account :

We saw not a river or stream of water on all the coast of Georgia. The head of the bay, as well as two places on each side, was terminated by perpendicular icebergs of considerable height . . . The inner parts of the country were not less savage and horrible. The wild rocks raised their lofty summits till they were lost in the clouds and the valley lay covered with everlasting snow. Not a tree was to be seen, not a shrub even big enough to make a toothpick. The only vegetation was a coarse, strong-bladed grass growing in tufts, wild burnet and a plant-like moss which sprang from the rocks.

In the Northern Hemisphere you would have to go as far north as Novaia Zemlia or Spitsbergen, which are 20° and 24° nearer to the Pole, in order to match such a scene of desolation.

Contrasts of North and South

Tierra del Fuego (the Land of Fire), which is the great island at the southern end of the South American Continent, lies in a latitude similar to that of Ireland, yet there the average summer temperature is nearly 10° Fahrenheit below that of Dublin, and the winters are terribly severe. On the western coast of South America a large glacier comes down to the sea in the Gulf of Penas, which is in latitude 46° 50', nearly corresponding with that of the Lake of Geneva in the Northern Hemisphere.

Enough has been said to show that the southern end of our planet is very much colder than the northern, so much so, indeed, that the great Southern Continent has none of the wonderful life of the Far North. Even in the very north of Greenland explorers have found musk-oxen, wolves, Polar bears, Arctic hares and Arctic foxes, besides birds of many kinds. In summer these low-lying plains are covered for a few weeks with a blaze of flowers, and the American explorer, Peary, the first man to reach the North Pole, has told of his delight at seeing bees

flying in the sunshine among the bright blossoms of the Arctic prairie.

On the Antarctic continent there grows not so much as a blade of grass, and vegetation is represented only by a few mosses. There are no land-dwelling animals at all, and hardly any insects. Within the mighty ice cliffs that ring it round, the great central desert of ice is the most lifeless area anywhere on the face of the planet.

Most Unbirdlike Birds

Such being the case it may, at first sight, seem useless to attempt to write about the wild life of the Antarctic; yet, although animals cannot exist on the ice cap, the waters surrounding it, cold as they are, teem with life. There are fish of many sorts, whales and seals, and sea birds in plenty. Of the birds, by far the most interesting are the various kinds of penguin.

The penguins of the Antarctic correspond with the auks of the Northern Hemisphere. As a great naturalist has remarked, "they are the most unbirdlike of birds." For one thing they cannot fly, but, on the other hand, they are magnificent swimmers. Their small wing stumps, covered with short, stiff, scale-like feathers, serve as admirable paddles in the water, and on the land as fore-feet.

A Swim of a Thousand Miles

The birds use them as such in order to scale the steep slopes of ice rising out of the water. Their feet, like those of the auks, are placed so far back that the body is quite upright when the bird is standing on the ground. They walk in this position and, although they cannot go fast, travel long distances. Their powers of diving and swimming are simply amazing. Sir James Ross, the English explorer, once saw two penguins swimming away at a distance of a thousand miles from the nearest land. For a bird that cannot fly, such a feat of endurance seems beyond belief.

But what makes the penguin the most interesting of all birds is its strikingly



WHERE PENGUINS REAR THEIR CHICKS: A ROOKERY BELOW THE VOLCANO OF MOUNT EREBUS

During the winter the penguins leave the sea and come on to the land to lay their eggs. The male bird makes a nest of stones, and if there are not enough steals some from a neighbour. Then he sits on the nest screeching until his wife arrives to lay her eggs. When the chicks are hatched the parents take it in turn to guard the nest and go off to the sea, from which they get all their food. When the Shackleton exploration party landed in 1908 the birds took the greatest interest in them and would come miles to inspect the camp.



SKUA GULL, THE PENGUIN'S DEADLIEST FOE

When the penguin rookeries are formed the skua gulls are on the look out to feed on any eggs that are left for a moment unguarded or upon any chick that has strayed from the nest. Penguin fathers and mothers, however, put up a good fight for their young ones, with their strong beaks and wildly beating wings.

human appearance. This depends partly on the way in which it stands erect, partly on the habit it has of using its dwarfed wings as arms. In all its movements ashore the penguin has an absurd likeness to man. Some groups look like elderly gentlemen in swallow-tail coats, gravely discussing politics, others you might take for beves of girls in down cloaks coming tripping back from a dance.

And then when they quarrel, as they often do, the resemblance is even more absurd. A penguin falls out with its neighbour, and a wrangle begins. The two birds scold like old women, other birds thrust themselves into the quarrel, voices rise higher and higher, and at last one loses its temper and attacks another with beak and wing. In a few minutes a fight is raging wildly, and the whole colony is in an uproar, so that it is a long time before peace is restored.

There are five sorts of penguins in the far Antarctic, the Adélie being the most numerous. Though it is smaller than the

others, this is a fair-sized bird, standing about two feet in height. The biggest is the Emperor, a very fine fellow, four feet high when full grown, and weighing as much as 90 pounds. Penguins are protected from the bitter cold by a thick layer of fat and the most wonderful coating of fur-like feathers. All the five sorts live mainly at sea, but the Adélie, the King, the Ringed and the Gentoo penguins come ashore to breed.

The Emperor, for some reason best known to itself, but a mystery to naturalists, breeds on the ice, and not only that, but lays its egg- it produces one only- in July, that is, mid-winter. The egg is not left on the ice; if it were, it would be frozen solid in a very short time. It is hooked on to the flat part of the feet of the mother bird, and covered with a sort of flap of skin which is dropped over it. But though most of the eggs seem to hatch, the poor chicks have a cruelly hard time, exposed as they are to temperatures of 40° or 50° below zero, and it is said that



WEDDELL SEAL, MOTHER WITH HER CALF UNAFRAID OF THE CAMERA

Weddell seals keep to the sea near the mainland, which is often take little notice unless actually attacked, when they become very impossible to reach by ship, and they do not come together in sufficient flushed and move off as fast as they can, which is not swifter than numbers in these latitudes to be worth hunting. Men visit these a man can walk. Few wild animals ever let a photographer come regions so seldom that the animals have not learnt to fear them, and as close as this, though both are keeping a careful eye on him

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only one in five survives until the spring. The habits of the Adélie, which is the commonest of Antarctic penguins, are more sensible, for the bird comes in off the pack ice in spring and gathers in huge rookeries on the barest ground it can find, close to the sea. The nests are made of pebbles, the male bird doing the work of building, if building it can be called. Since it is hard work collecting these stones and carrying them for long distances in the beak, it is no great wonder that sometimes a bird takes advantage of the absence of a neighbour to steal a stone or two from his heap. If the theft is found out there is a great to-do, and all through the breeding season these quarrels go on.

A Romance of the Rookery

The oddest thing among penguins, and one in which they differ from any other bird, is that they are so kind one to another. Dr. Nordenskjöld tells of a poor little gentleman penguin that came into the rookery so late in the season that there were hardly any stones left, and the wretched little pile he scratched up was regarded with scorn by the lady penguins, who turned up their beaks and would have nothing to say to him. This state of things lasted until some of his neighbours took pity on him and brought him stones enough to build a nest, which was the finest in the rookery. After that the once despised bachelor had nothing to do but pick the fairest of the ladies, and so they were married, and—we will hope—lived happily ever after.

This kindness continues after the young are hatched, for the older birds often feed young ones that do not belong to them. This habit seems all the more generous when it is remembered that the penguin cannot fly, but has to walk all the way down to the sea to capture the shell fish on which it feeds, and sometimes when floe ice has packed along the shore its tramp to reach open water is a very long one indeed.

Another delightful habit of penguins is speech-making. Especially ceremonious

are the Emperors, who are most courteous when they meet another party, or even human beings, whom they seem to mistake for a larger variety of themselves. The party will halt, and then one of the older birds, stepping forward, will bow in a portly manner and deliver a long series of gobbling noises like a public speech, until perhaps a rival, who thinks he can do it better, elbows him aside and goes through the whole thing again

"Break-Bones," the Enemy

These penguins of the far Antarctic are not in the least afraid of man, on the contrary, they are very interested in human visitors and are in the habit of walking quite long distances to inspect them. They came miles to examine Shackleton's camp and were particularly interested in the sleigh dogs

Their chief enemy is the big Skua gull, a bird as large as a goose, with a powerfully hooked beak four and a half inches long. The Spaniards call it "quebranta huesos," or "break-bones." It feeds on fish but will eat carcasses of dead seals, and is particularly fond of young penguins. Hovering overhead, the Skua waits until it sees its chance, then swoops down and goes off with a poor little squawking penguin chick

How Man Deals with the Penguins

But the penguin's worst enemy is man. On Macquarie Island, which lies far south of New Zealand, and where a wireless station has been established, an Australian firm carries on an oil making factory, and every year three-quarters of a million penguins, besides two or three hundred sea elephants, are boiled down. It is estimated that there are on this island alone at least thirty millions of penguins.

Macquarie Island was also once a rookery of fur seals. Records show that in 1840 no fewer than 40,000 fur seals were taken off the north end of the island, so it is not wonderful that to-day not a single fur seal survives there. The so-called sea elephant is the biggest of the seal family, being even larger than the



LARGE WEDDELL SEAL LEAVING THE SHORE ICE TO HUNT FISH OFF ROSS ISLAND

Among the largest of the Antarctic seals, the Weddell seal inhabits the bays of Weddell Sea. In 1823, a naval officer, James Weddell, explored it and brought back a specimen of the seal. On land the animal moves in a series of lunges, pushing with its front flippers, but once in the water it is graceful and a fast swimmer. In the photograph the seal has just put its head over the edge of the shore-ice off Cape Evans and is about to slither into the sea, where it may disappear for fifteen minutes before coming up to breathe.



SEAL KEEPING A HOLE CLEAR IN THE ICE FOR FISHING

This is a picture of the sea coast in winter when the waves are frozen into a white plain. The movement of the tide, however, causes the ice, which is seldom over five feet thick, to crack and so leave gaps. These gaps are kept open by the seals diving in to catch the fish on which they live and coming out again for air.



RARE LEOPARD SEAL CAPTURED BY THE EXPLORERS

Fastest and strongest of Antarctic seals, it attains great speed in the water, but is feeble on land. It has an immensely powerful head and neck, but its body, mottled black and grey, then tapers like a snake's. It lives on penguins, small seals and fish, and grows to over eleven feet long. It is solitary and has seldom been captured.

great walrus of the Arctic. Specimens have been killed, 25 feet in length and 15 feet round the body. They are actually much larger and heavier than the real elephant. Although they have no trunk, the nostrils are very long, and when the animal is angry these swell out into a sort of snout a foot long. When enraged, the great sea elephant bellows loudly and opens its huge mouth, which is armed with long yellow teeth.

But though it looks very terrifying it is really a defenceless creature, for when on land it can move but slowly, and one good blow on the snout from a club stretches it lifeless. Its flesh is black and oily, but its tongue is a great delicacy, and its fat yields very good oil. So, like most others of its kind, it is rapidly and ruthlessly being destroyed.

Another southern seal, called the sea lion, is larger than its northern namesake. The male has a fine curly mane, but the female is much smaller, has no mane, and looks so different that she is often mistaken for a different sort of seal. The sea lion grows to a length of twelve feet and is

much larger than the rare sea leopard. The last mentioned is the fastest swimmer of all the southern seals, but is slow and feeble on land. It lives upon smaller seals, fish and penguins. Like other creatures that haunt the shores of the Antarctic Continent, it has not yet learned to fear man. Our photograph of a mother Weddell seal with her cub is good proof of this fact. Even the seals must find life difficult during the Antarctic winter, for the whole sea freezes over and they have difficulty in keeping gaps open through which they may come up to breathe.

In the far north the principal enemy of seals is the Polar bear, but in the Antarctic their chief foe is that terrible animal called the "killer whale." This is really a grampus, a creature fully 20 feet in length and without doubt the fiercest and hungriest of all things that live in salt water. The killer is afraid of nothing, and a pack of them does not hesitate to attack a great whale, tearing it to pieces while still alive. Even man is not safe from them, for they have been known to fling themselves at the sea ice on which men were

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walking, smashing the floe with their heavy bodies, in the hope of breaking through to their prey.

Whales of many kinds are plentiful in the Antarctic, and of late there has been a great revival in the whale fishery, especially from South African ports. The reason for this revival is found in one word, "margarine," for whale blubber is of value in the preparation of certain kinds of butter substitute. As many as sixteen whales have been captured in one day off the Cape of Good Hope, and the government is becoming alarmed lest these great creatures should be entirely wiped out. But so long as there are millions of square miles of Antarctic ice there is little danger of this happening, for here the whales can find refuge in waters too difficult and dangerous for even the best equipped ships.

The greatest curiosity of the Antarctic Continent is the great active volcano of Mount Erebus. This, the southernmost volcano in the world, rises to a height of 13,100 feet, and its summit was first reached on March 10th, 1908, by Lieut. Adams and a party from the expedition commanded by the late Sir Ernest Shackleton.

The active crater is half a mile across and 800 feet deep. It throws out vast volumes of steam and sulphurous gas to a height of 2,000 feet. The temperature near the summit was 50° Fahrenheit below zero.

We have all heard of the Northern Lights, which are sometimes seen so far south as Devonshire. But the Southern Lights are even more brilliant and wonderful. Mr. Morson, of the Shackleton Expedition, describes them as "racing cascades of luminescence traversing the length of the heavens with remarkable speed."

There is good coal in the Antarctic, and it is believed that many minerals, and even precious stones such as diamonds, exist in the ice-clad rocks. The Antarctic waters are alive with eatable fish, which are so plentiful that they will take an unbaited hook. In spite of these natural riches, the terrible temperatures, the awful storms, the tremendous masses of ice both on land and sea forbid any possibility of settlement by man. In the far future the climate may change, and Antarctica become mild as it was once ages ago, but until that happens the great Southern Continent must remain the least known portion of the globe.



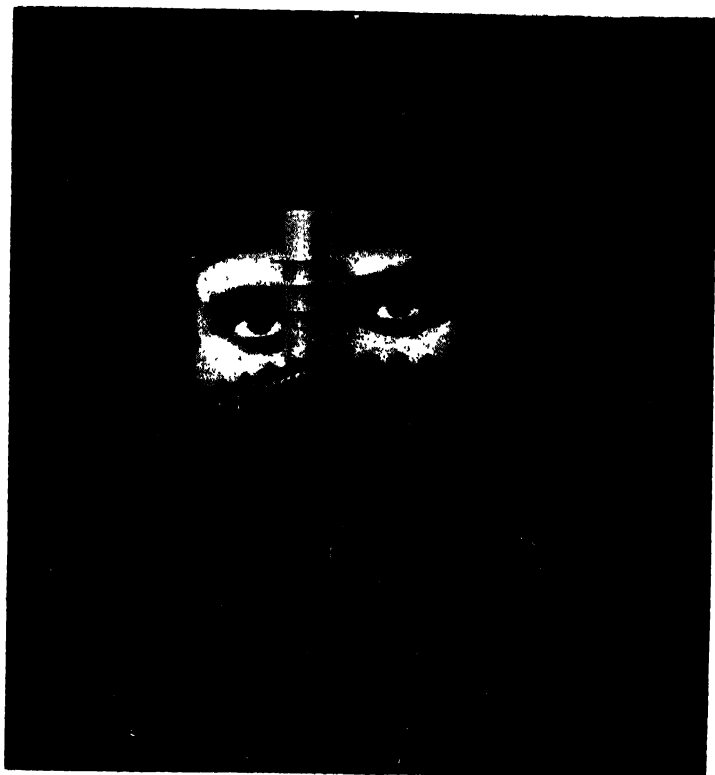
VINCE'S CROSS UPON THE SUMMIT OF HUT POINT PROMONTORY

On the top of Hut Point stands a white wooden cross which was erected to the memory of George T. Vince, a seaman of the British Navy who accompanied the Discovery Expedition in 1901-4. He lost his way in a blizzard and was killed by a fall from an ice-cliff. This simple emblem commemorates one who died in the performance of his duty.



HOW MOTHER USUALLY CARRIES BABY IN CAIRO

Walking about the native quarters one notices that mothers carry their babies either clasped to one hip or else astride their shoulders. The cloak of the woman is usually dark blue and the face veil is made of a coarse kind of black crepe kept free from nose and mouth by a little cylinder of gilt wood. There is Arabic writing on the closed door



The Colour of Cairo

LIFE AND GLAMOUR OF EGYPT'S HISTORIC CAPITAL

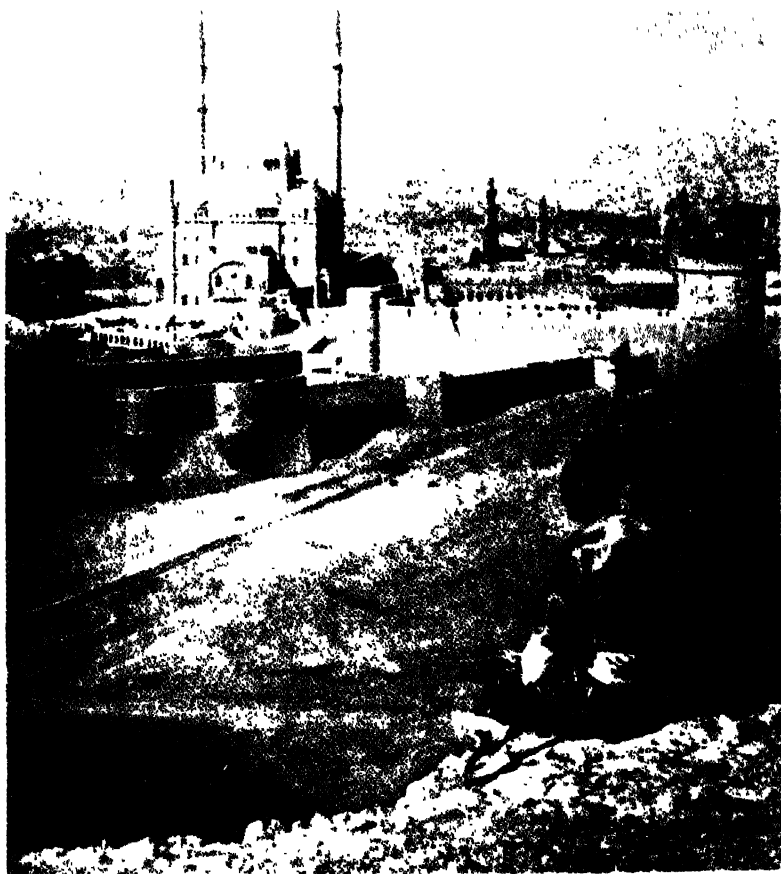
THERE is a thrill in our first sight of Egypt. We gaze intently over miles of sea to a blue haze at the edge. Part of the blue haze begins to darken a little, and presently takes a vague shape. Then the shape becomes more distinct, the shadows fly as we draw nearer, and a glistening white city meets our gaze. That is Alexandria.

We shall not loiter at Alexandria. Somewhere beyond, on the banks of the Nile, lies the city of a thousand dreams, where from a cloudless sky the sun shines down upon all the races of mankind—for Cairo is a Tower of Babel if ever there was

one—and upon such strange buildings as are only to be found in Eastern cities.

Already, gazing from the windows of the train that takes us from Alexandria to Cairo, we feel the spell of Egypt. Here are the palms, the green plains, the groups of dusky Egyptians, the strings of camels and the sad, mouse-coloured donkeys.

Already there is this hint of Egypt, which makes us eager for the sight of Cairo. When at last we really do see it—well, it is at first rather disappointing. A railway station is always a sad affair, even such a nice-looking railway station as Cairo's, and the way thence to the



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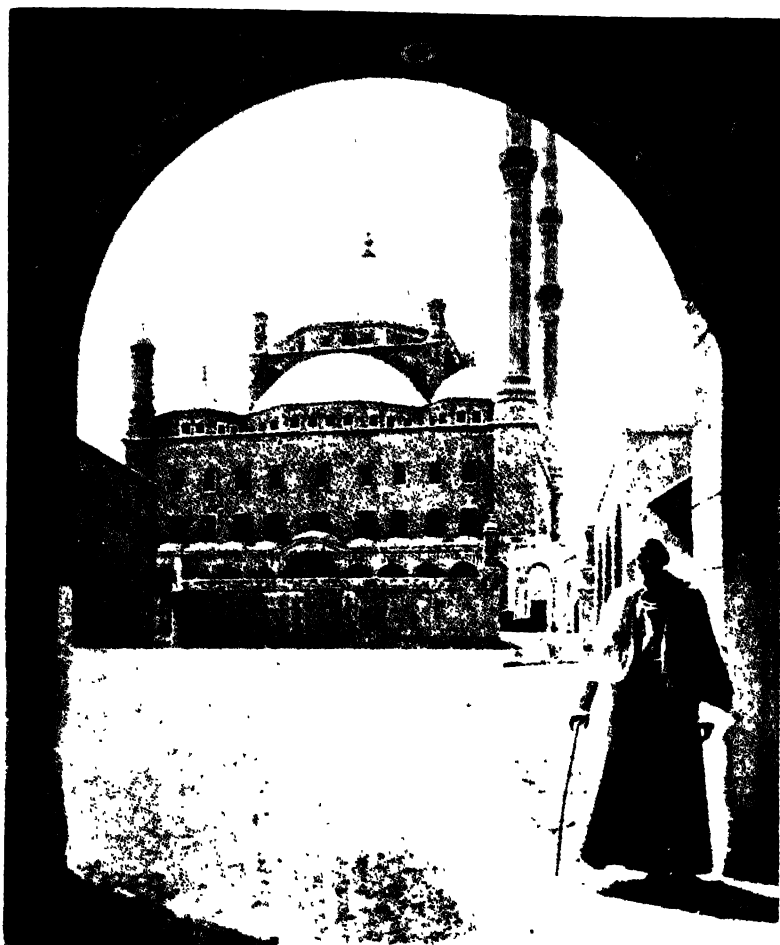
ALL CAIRO SEEMS AT YOUR FEET FROM THE MOKATTAM HILLS

The finest view of Cairo is had from the Mokattam hills, which lie outside the city to the east. Immediately below us is the Citadel and its mosque, whose central dome is flanked by two of the thin, pointed towers called minarets. This part dates from the year 1227, though some of the outer walls were built by Saladin, who fought Richard Cœur de Lion.

hotel is not, as a rule, very much better. So it is with Cairo. We must wait a little while before we find the city for the fulfilment of our dreams.

While we are waiting let us glance at Cairo's history. It is not such an ancient history as many people think. The Pharaohs, Egypt's ancient rulers, had been dead many years and the Pyramids were

very old when the site of Cairo was merely waste land and sown fields extending from the Nile to the Mokattam hills. As far as it is possible to judge there were no buildings there except a couple of fortresses up to the year 641, when the Commander-in-Chief to the armies of the victorious Caliph Omar captured the Roman fortresses and built a town, which



E N A.

ENTRANCE TO THE COURTYARD OF THE MOSQUE IN THE CITADEL
 We have seen what the Citadel looks like from the top of a hill and now we are in the actual courtyard of the mosque itself. It is called the Alabaster mosque because of the material of which most of it is built. Mehemet Ali set it up after capturing the fortress by placing cannons on the Mokattam hills and firing over the walls

he called Al Fustât. This was the first Mahomedan capital of Egypt.

Now Fustât, in Arabic, means "Tent," and this is the story the Arabs tell as to how the name came about. When the victorious general marched north to capture Alexandria he left his tent standing because he refused to disturb the doves that had commenced building

there. On his return from the conquest of Alexandria he commanded his army to build their quarters around his still standing tent, and from that fact the new settlement, which was the first Arab city of Egypt, came to be known as Al Fustât, "the Tent."

Fustât soon became quite an important settlement, with mosques, palaces.

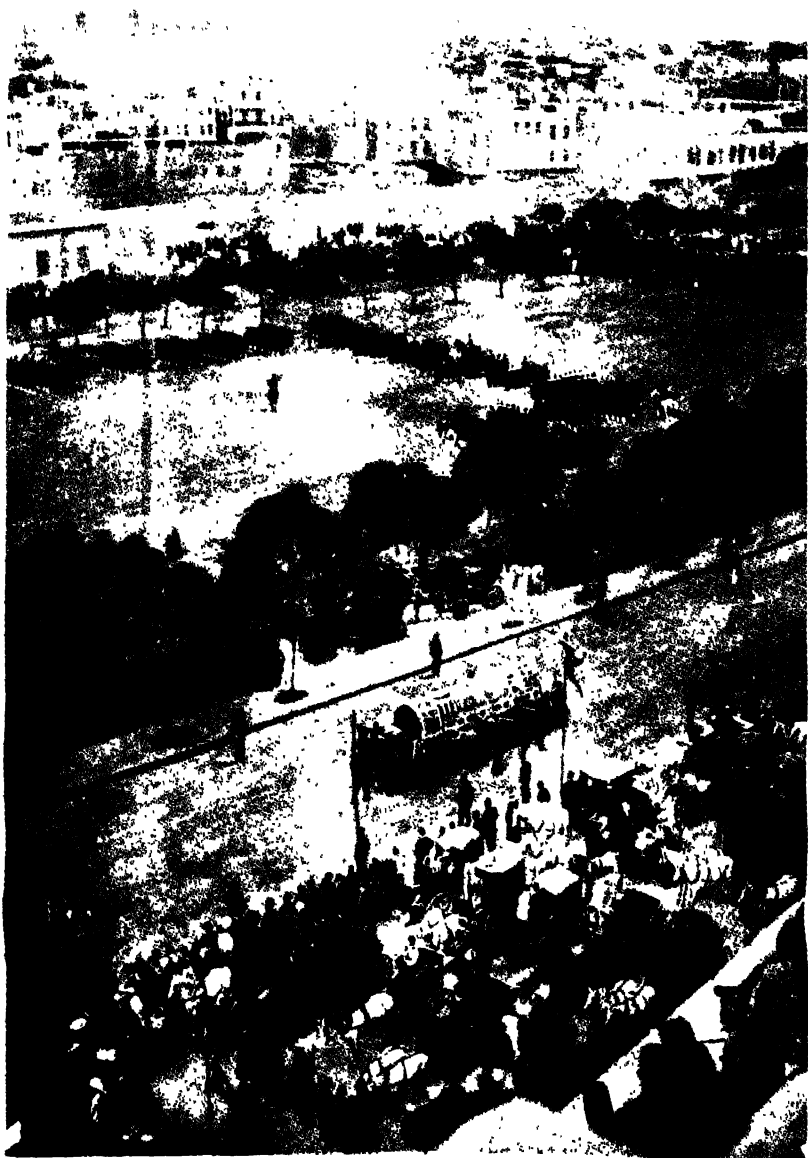


CAIRO ON THE NILE is a great river port. The scene here looking across the branch of the Nile between the island of Roda, on which we are standing, and that part of the city called Old Cairo. The craft moored along the farther bank are feluccas, with their short of an embankment protecting a garden. Along the top of the wall visitors walk to see the famous Nilometer. This is a great stone well with a pillar in the centre showing the rise and fall of the river.



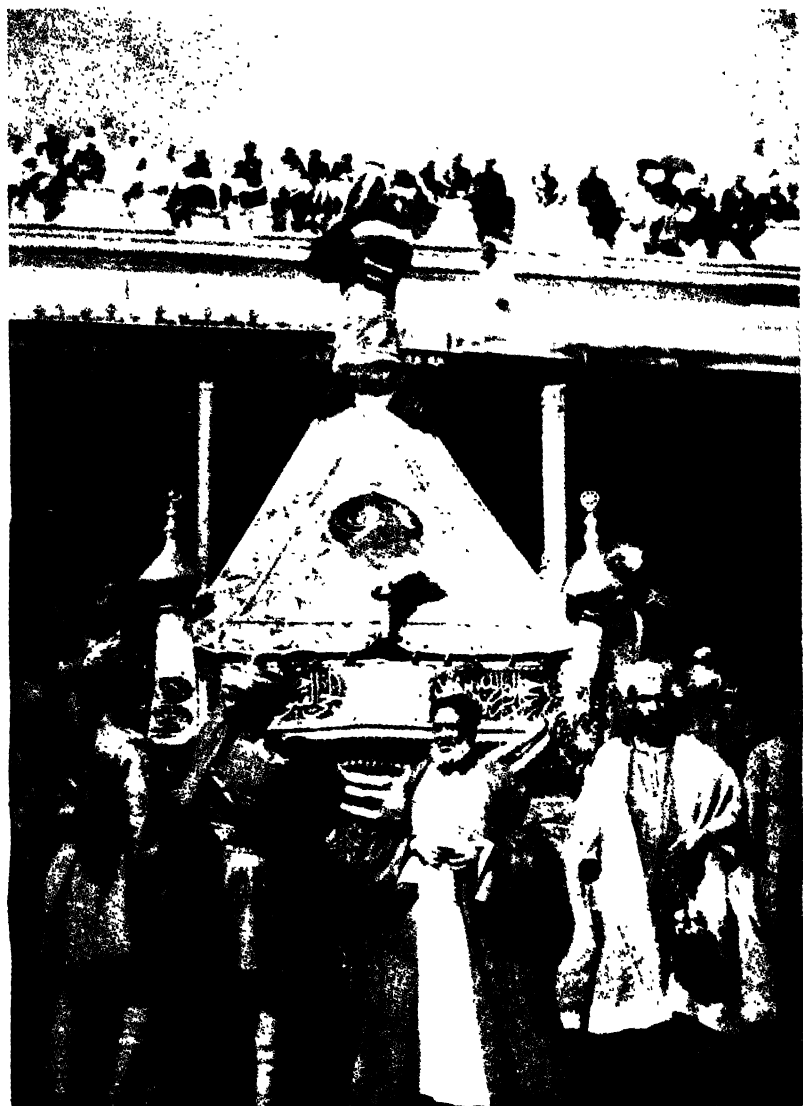
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THE WATER SELLER is one of the commonest sights, with his goat skin and brass cup, although waterworks now supply most houses, and here and there one can see a pipe jutting from a wall, where some charitable person has built a fountain for the public good. A squeeze of the water-seller's elbow sends a cool jet from the shining nozzle.

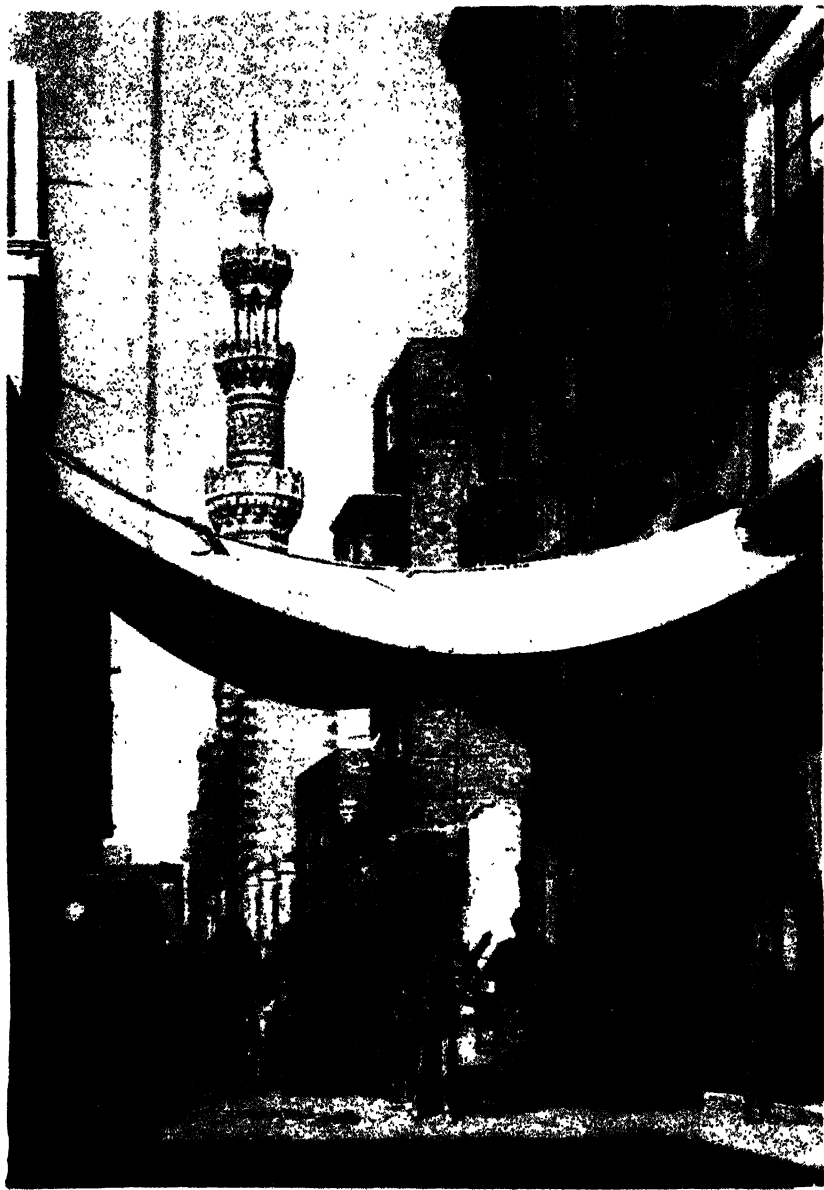


CAIRO HONOURS THE HOLY CARPET ON ITS WAY TO MECCA

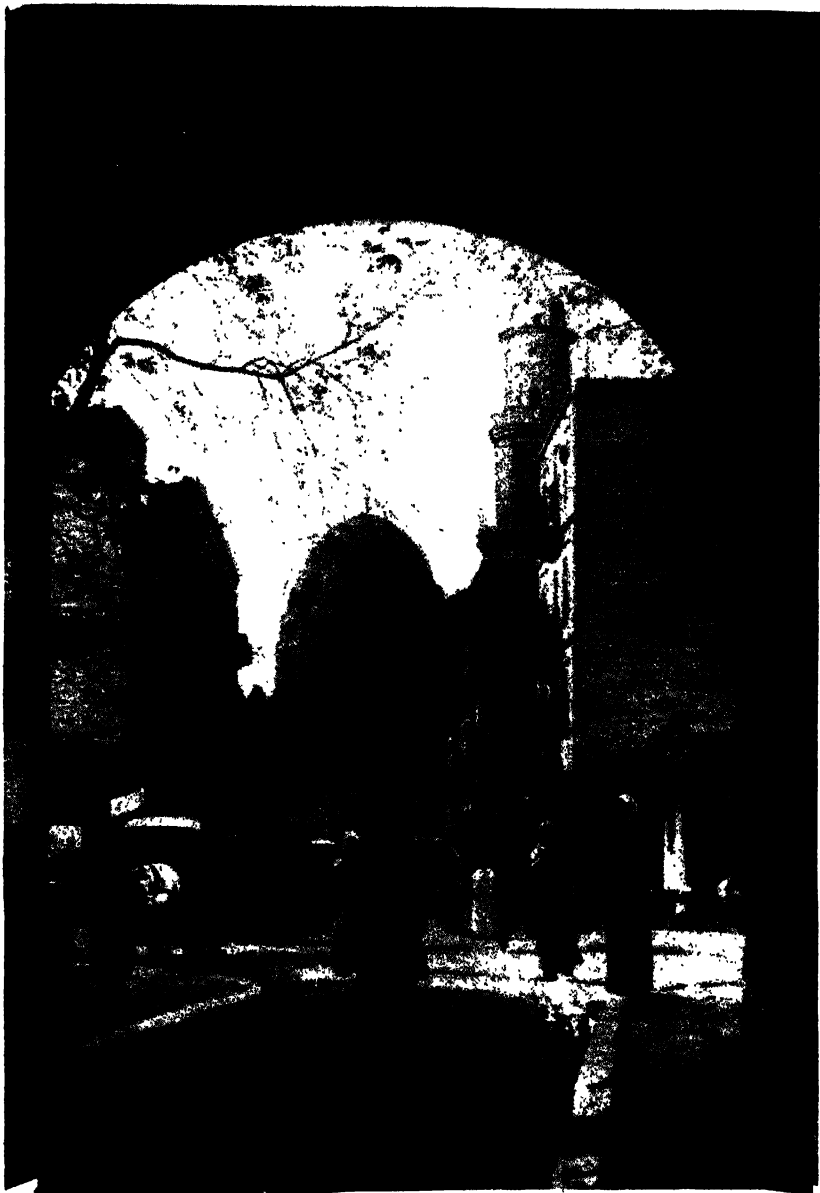
Every year thousands of Mahomedans make the pilgrimage to the holy city of Mecca, in Arabia, for it is the duty of every follower of the Prophet to go there at least once in his life. The most sacred shrine of Mecca is called the Ka'abah, and it is always covered with a sacred carpet. This carpet is renewed annually and carried from Cairo.



embroidery. But there is nothing inside it. It is empty. The new carpet has been taken to Mecca the Mahmal is brought back with the old one.



IN CAIRO BAZAARS the way is blocked with donkeys and mules, carts and carriages, besides the crowds of Egyptians, Arabs, Jews, Syrians, and a sprinkling of European tourists. There is always a pandemonium as coachmen and camel drivers shout to clear the way, and in shops men are haggling. Above the crowd awnings give shade from the sun.



AHMED IBN KHALDOON, one of Egypt's calphs in the ninth century, built the mosque which can be seen at the end of the street in A.D. 876. It was copied from the mosques of Mesopotamia, and at that time was the largest in the world. After the Amr mosque, which was originally erected in 642, that of Ibn Khaldoon is the oldest in Cairo.



JOHN B. McLEISH

REMOVING SHOES AT THE UNIVERSITY GATES

Beautifully decorated inside and outside, the mosque of El Azhar has been used as a university ever since the year 988, and is the most important centre of learning in all the Mahomedan world. There are about ten thousand students, of many nationalities, and they spend from three to six years learning, for the most part, sacred subjects.

THE COLOUR OF CAIRO

barracks and the dwellings of an Eastern capital. The summer palace, where the Emirs of Egypt "often resorted to enjoy the cool breeze," stood on a spur of the Mokattam hills upon which the Citadel now stands, and another magnificent palace had been built by Ibn Tulun in the Royal suburb of Al-Katâ'i.

In 969 a new Arab conqueror came down into Egypt. He captured Fustat and laid the foundations of a new city. It is said that on a clear August night he marked out the boundaries of his new city on the sandy waste which stretched north-east of Fustât in the direction of the old Egyptian city of Heliopolis, and a square about a mile each way was pegged out with poles. Each pole was joined by

a rope on which bells were hung, and it was arranged that at the moment when the astrologers gave the signal that the lucky moment had arrived, the first sods were to be turned.

While the workmen were awaiting the signal a raven perched on one of the ropes, and set the bells tinkling merrily. Straightway every workman thrust his spade in the earth and began to dig. At this moment the planet Mars, which the Arabs call Al-Kâhîr, was above the horizon, and although this was looked upon as a bad omen, the raven's signal could not be ignored. The new city was called after the planet Mars, "Kâhîrah"—that is, "the victorious" and out of this we have derived the modern Cairo.



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AN EXAMINATION IN THE MOSQUE OF EL-MERDANI

Moslem students are chiefly concerned with learning all their work by heart. In this photograph a number of them are working at an examination, everyone squatting on the floor, for there are no chairs. Each has his pot of ink in front of him. This mosque was built by the cupbearer to the Sultan En-Nasir about the year 1340.



BLUE PORCELAIN fashioned into tiles makes this one of the loveliest of mosques and has given it its name of "the Blue." The tiles are arranged on the eastern wall of the Liwan, or sanctuary, which the visitor sees from the beautiful palm court. There are patterns of exquisite design, some of which represent cyprus trees.



TALL MINARETS standing up against the sky surround us on all sides if we climb up to one of the flat roofs of any of the houses in the centre of the city. From the doorways half-way up these towers officials called "muezzins" appear five times every day—at dawn, noon, four o'clock, sundown and midnight—to call the Faithful to prayer.



Donald McLeish

A GAME OF DRAUGHTS IN A COURTYARD OF OLD CAIRO

It is known that a game very like draughts was played in ancient Egypt thousands of years ago, and so it is not surprising to find one of our own home games played to-day as far away as Cairo. One of the men is holding in his left hand the mouthpiece of a nargileh, or waterpipe. The tobacco is burned in the canister at the top.

Thus was founded the great City of the Caliphs, of which it presently came to be written: "He who hath not seen Cairo hath not seen the world: its soil is gold, its Nile is a wonder, its houses are palaces, and its air is soft, its odours surpassing that of aloes-wood, and cheering the heart, and how can Cairo be otherwise when it is the mother of the world?"

Just one word more on Cairo's history. It was captured by the Turks in 1517, by the French in 1798, by the British, who

handed it back to the Turks, in 1801, and finally it was taken once again by the British in the year 1882.

Until the year 1883 Cairo was a very fair specimen of a large Oriental city, where Eastern life and character could be observed with delightful ease. It was just an Eastern city, and nothing else—decayed palaces, dusty streets, a considerable amount of filth and that endless variety of colour of which no Western institutions may ever rob it.



SERVING MEN WHO RUN BEFORE A CARRIAGE TO CLEAR THE WAY

Cairo's streets are so crowded in places that many of the wealthy Cairenes, as the citizens are called, have runners to clear the road in front of their carriages. The runners are dressed in bright colours, and use both voice and stick. In the East time is not thought very important, and folks must have "hurry" explained to them rather forcibly.



FARMER AND FAMILY UP FROM THE COUNTRY TO SEE THE SIGHTS

Sometimes the farmers in the neighbourhood of Cairo come into the city on business, and then their wives and families have an opportunity of seeing the great city. The children will never sit down quietly to watch what passes, any more than an English child in a bus, so they have a special kind of crate in which they can stand up safely.



THE SPLENDID MOSQUE OF SULTAN HASAN—the finest in all Egypt—stands on a shelving rock opposite the citadel. The loftiest of its minarets is 267 feet high and the tallest in Cairo. This mosque contains the mausoleum, or ornamental tomb, of the Sultan

and was built in three years, 1356-59. The dome is 180 feet high. Next to it is the chief Liwan, or sanctuary, which is built on the side towards the holy city of Mecca. It is known as a madrasah, or school mosque, as classes for religious teaching are held in it.

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The people were tolerant, and became more so as they mixed to a greater extent with Europeans. Railways, telegraphs and other inventions of the Frange, or European, had shown them that the "magic" of the West was more powerful, and probably more useful, than their own. Soon the people began to believe that the British in Egypt helped towards freedom and security of life and property; and so the city began to develop rapidly. If a man who saw Cairo forty years ago were to revisit it to-day he would see for himself what a wonderful change has taken place; and how that change has been all to the advantage of Cairo, and of the people who dwell in the city.

The Mingling of East and West

Now these are matters of a more or less historical character. It is good to know something about them before setting out to explore and enjoy the wonders of the city. But even if we know nothing about them we shall be able to appreciate Cairo. If we have eyes for colour and hearts for romance, we shall get a great deal of both before very many days have passed.

Impressions will crowd in upon us at such a furious rate that we shall hardly know how to sort them out afterward. This mingling of East and West, this jostling of strange and varied types of people and costumes, this jumbling together of buildings which seem like those only seen in dreams, this throb, throb, throb of one of the greatest cities in the East, will prove to be a source of endless delight, like the first coloured picture-book that we ever saw.

But we shall not see much of all this in the European quarters—the Esbekia, Ismailia, and Kasr-el-Dubâra quarters. Altogether, there are thirteen quarters in Cairo. To the north-east of the main city is the quarter of Abbasiyah, called after the Khedive Abbas I, which has some barracks in which British soldiers are quartered. To the west is Bulak, the old part of Cairo, which is still kept very busy loading and unloading the produce

carried up and down the Nile in strange ships. Like the rest of Cairo, the scene here is bright and full of life.

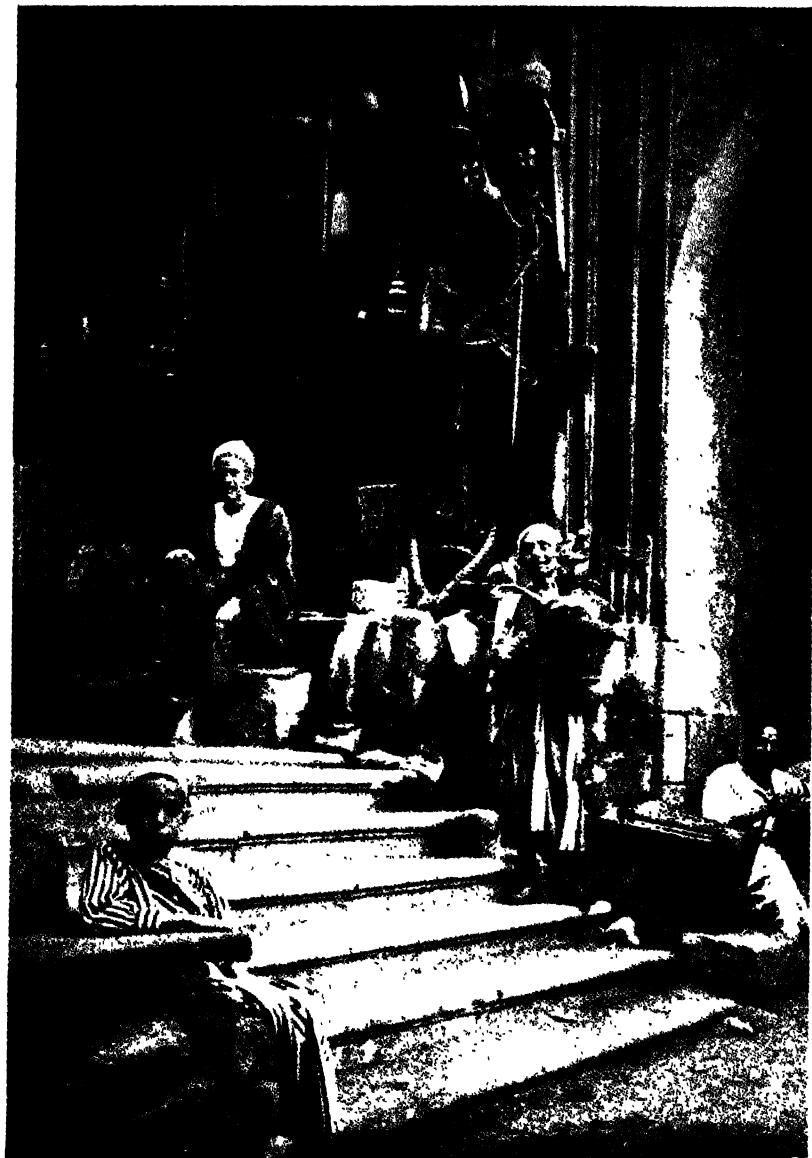
Wonderful Palace on an Island

Bulak is easily reached by tram, and on the nights of popular festivals it is well worth seeing with its crowded streets, its gaiety and its curious customs. Just opposite is the Island of Bulak, commonly known as Gezira, where Ismail Pasha built a wonderful palace, like those they used to build in the time of the Caliphs, and laid out a racecourse. The palace has now become an hotel, and the Khedival Sporting Club is always holding there entertainments of one kind or another which are enjoyed both by Europeans and Egyptians. During the afternoon we see the main road to Gezira filled with people in carriages and motors driving out to "take the air."

The fine Kasr-en-Nil Bridge connects the island with the east bank of the Nile. Most of the different types of people who live or work in the city can be seen by standing on this bridge between 6.30 and 9 a.m., when it is crowded with merchants, market-gardeners and pedlars, dressed in the oddest costumes, and bringing in their wares to the markets of the city. It reminds one of the great bridge at Constantinople, and if the morning happens to be fine, the sight will be one to remember for a long time.

The Bright Blue Sky of Egypt

The brown water of the Nile flows beneath, dotted with the peculiar craft of Egypt, tall-sailed, painted boats called feluccas, swaying gently in the morning breeze, and waiting for the afternoon, when the bridge is opened to allow such vessels to pass up or down the river. Above is the blue sky, which Egypt loves a great dome of azure, from which the light comes, sparkling down to the mosques and palaces, the parks and gardens, the white network of buildings, and the innumerable balconies of the city, and to the neighbouring desert, with its groves of palms, its Pyramids and



Donald B. ...

METAL WARE AND WEAPONS FOR THE SOUVENIR HUNTER

A shop of old curiosities displays a great variety of goods before the visitor who happens to wander down this "souk," or bazaar. There are fly-whisks, shovel-headed spears, swords that the merchant will tell you were found on old Crusading battlefields, and relics from the Pharaohs' tombs; but it is not wise to believe all he says.



Donald McLeish

ROADSIDE RESTAURANT IN ONE OF THE BAZAARS

If we were tempted to try an Arab lunch in the Cairo bazaars we could either stop a wandering cook and his portable kitchen, or visit a wayside shop, outside which we could sit while we ate a strange-tasting meat-pie, or perhaps some fish. Chairs are foreign to the Cairene, who usually eats his dinner while sitting cross-legged on a mat.



JOHN McLELLAN

CUNNING CRAFTSMEN AT THEIR BEAUTIFUL WORK IN THE BAZAAR OF THE TENT MAKERS

Cairo's chief shopping district is situated round about the street called the Muski. The various bazaars lead off from this highway, which is itself bordered by shops. Merchants of the same trade can see the goods being made. But a good deal of the finely coloured stuff sold here as native work comes from France and England. The ornamental work consists of wall hangings, tent linings, and awnings. The patterns are copied from the old Egyptian models, and in the tent-maker's bazaar the visitor

THE COLOUR OF CAIRO

temples, its colour and mystery. On the bridge itself is heard the babble of camel-drivers and donkey-boys, of porters loaded like beasts of burden, of the drivers of oxen-drawn wagons, of veiled women very much afraid of being knocked over, and of all manner of strange men and strange beasts.

Then we come back to the main streets. What do we notice? A British visitor will probably be impressed first of all by the Kodak shops and pharmacies, or by the way Cairo seems to live out-of-doors. The innumerable cafés of the Esbekia place their chairs and tables on the pavements, so that it is frequently necessary for a passer-by to step into the road, and run the risk of being knocked down by an arabiyyeh, or carriage, dashing through the street at the absurd rate these Eastern drivers love so much.

Backgammon for a Cup of Coffee

These cafés are interesting, since in them will be found people from almost every quarter of the earth. Here are groups of Italians, Greeks and Levantines arguing noisily, drowsily smoking the bubbling nargileh, or water-pipe, or playing a kind of backgammon for the price of a cup of coffee.

As we continue through the streets, every step will reveal a new and fascinating picture. Odd little shops, protected from the sun's glare by torn, flapping awnings, catch the eye. Not that the goods displayed for sale are always particularly attractive, but the dark interior has an air of mystery and the promise, not often fulfilled, of strange merchandise. Now comes a door with a bead curtain jingling in the breeze—probably a barber's shop. A mass of colour piled among the shadows of a hole in the wall proves to be a fruiterer's; next to it is a native café, with pitch-black Ethiopians and tall Nubians, and a dozen other varieties of modern Egypt's many races.

The streets, of course, are choked with a motley crowd, in which only the camel or a lonely Arab from the desert seems able to maintain any dignity. The drivers of

vehicles and beasts of burden keep up an incessant shouting as they thread their way through the crowd. "Make room, O my mother!" calls a shrill-voiced donkey-boy. "O Sheik, take care!" "You, good fellow, to your right!" "By your favour, effendi!" and so on.

A Street of Saladin's Days

There is even more bustle in Cairo's bazaars than in the streets. From the Ismailia quarter, where are most of the handsome, modern hotels, the way down to the bazaars is through the Muski. A tradition says that the Muski dates from the time of the famous Saladin, who was the Crusaders' chivalrous foe.

Its character has changed a good deal in recent years, and many of the native shops, with their quaintness and smells and sleepiness, have been replaced by large shops built on the French pattern, with plate-glass windows. At one time practically the whole of the street was roofed in, and on very hot days it proved a cool, if crowded, retreat. On festival days one sees representatives of many lands, from Sweden in the north to the White Nile in the south, and from India in the east to Morocco in the west.

Motley Carnival of Cairo

It is one of the most characteristic parts of Cairo—a carnival in which the costumes of Europe, Asia and Africa mingle in a fascinating collection. At first it is a little confusing. Here are Turks, grinning negroes from the Sudan, bored-looking fellahs, or peasants, in their bright rags, wily Levantines, green-turbaned Sherifs, or Moslem holy men, dignified Beduins, and people at whose race it is often difficult to guess. All day long the street is packed with donkeys, strings of camels, loaded wagons, water-carriers with their tinkling glasses, sherbet and sweetmeat sellers, carriages and richly caparisoned horses, porters shaped like sickles, from the burdens they carry, gorgeously-dressed Jewesses, beggar children, closely veiled women and all the odds and ends of Cairo's astonishing medley. The ring of



J. F. Stevens

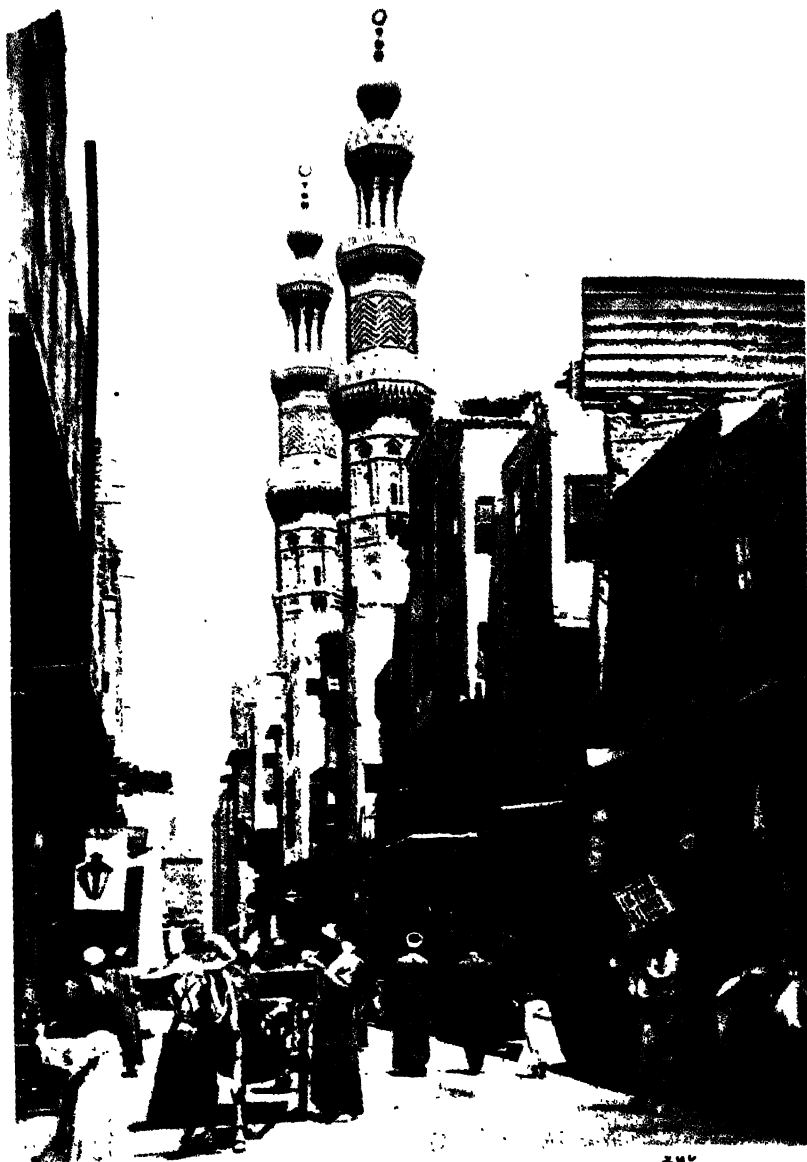
CROCKERY SHOP AND ITS PROPRIETOR IN A CAIRO BAZAAR

Native shops are usually small cavities in a wall about six feet wide. A shopkeeper sits cross-legged and waits for custom, and when it comes he settles down to enjoy himself. In the East no one dreams of marking his goods at a certain price. The seller asks more than he expects to get, and the buyer offers less than he is prepared to pay.



SHOEMAKER CUTTING OUT LEATHER IN HIS TINY SHOP

This photograph gives a good idea of the native workshop. There are, of course, stores and factories in Cairo as up-to-date as any elsewhere; but in the bazaars there are still little dens with hardly room for the proprietor and his stock, and none at all for a customer. Notice the shelves filled with the red slippers that are the usual native wear.



MINARETS ABOVE ONE OF THE OLD CITY GATEWAYS

In this street a row of tumbledown houses hides one of Cairo's most beautiful mosques, the mosque of El Muayyad. It was completed in 1422. The two tall minarets are seen rising above the southern gate of the old Fatimate city, called the Bab Zuweila. Fatima was one of Mahomet's daughters, and the caliphs descended from her are called Fatimate.



CRUMBLING HOUSES IN THE BOOKSELLERS' BAZAAR

The street of El Azhar, which leads from the great university seen in page 226, is in the booksellers' quarter. Here we can see exactly what the ordinary Cairo shop is like—the narrowness, the raised floor, and the shop signs in Arabic above. The windows of the upper floors are covered with heavy gratings, because these are the women's apartments.

THE COLOUR OF CAIRO

hammers is almost deafening in the Bazaar of the Brass Workers; and a strong smell of perfume comes from the Scent-Sellers bazaar. In the Spice Market men pound strange roots and herbs in metal mortars. Beautiful rugs from Damascus, Ispahan and Samarkand can be seen in the carpet shops.

Stories told in Stone

The buildings of Cairo are as interesting as the people, and as full of colour. "Every step tells a story of the famous past. The stout remnant of a fortified wall, a dilapidated mosque, a carved door, a Kufic (Arabic) text—each has its history, which carries us back to the days when Saladin went forth from the gates of Cairo to meet Richard on the plain of Acre, or when Beibars, the Mameluke captain, rode at the head of his cavalry in the charge which trampled upon the Crusaders of Saint Louis."

In the city is the great university of El Azhar, which was built by Gohar in 973. It is considered to be the most important Mahomedan university in the world, and students come to it from many different countries, but it is so arranged that those of the same nationality live and study together. There are over three hundred teachers, and sometimes the students number as many as ten thousand.

The Voice from the Minaret

Let us look at some of the other buildings. Every visitor to Cairo will remember the blue tiles of the Ibrahim Agha Mosque, the wonderful doorway of the Sultan Hasan Mosque, and the delicate ornamentation and graceful minaret of Kait Bey. The Arabs had a very fine taste in art, as you will see at Cairo. There is something delicate and light about what they built. And the centuries have added to this delicacy and lightness a hundred warm shades of colour.

We shall first go up to the Citadel, on the Mokattam hills, and look out upon the wonderful panorama of Cairo which is spread before us. We see below us a forest of minarets, rising gracefully from

a jungle of pink, blue and white buildings in which the streets are like pathways of darkness. From these slender towers, or minarets, goes out the call to prayer, not, as with us, by the ringing of bells, but by the human voice. To hear these voices floating over Cairo is curious and agreeable. The sound harmonises well with the mystery of the city.

The Citadel was once the key to fortified Cairo, but now it is worthless as a military stronghold. Its greatest feature, apart from the view it offers, is the Mehemet Ali Mosque with its two wonderfully slim and beautiful minarets. They are the last you see of Cairo as you steam away on a voyage down the Nile; and you could have nothing more beautiful for your last impression. The decoration of the mosque has, perhaps, been carried out in colours which are too bright, but the beauty of the two minarets makes up for any defects it may have.

How the Mamelukes were Betrayed

The most direct road to the Citadel used to be through the Gate al-'Azab, and then along a narrow track walled on each side. It was in this narrow way that the massacre of the Mamelukes, a ruling class of soldiers in Egypt and who were the descendants of slaves, took place on March 1st, 1811. All the Mamelukes of any position or power were decoyed into the Citadel on the pretence that they were to assist in celebrating the appointment of Tusun, son of Mehemet Ali, to the command of the army.

Having taken coffee, they formed in a procession and marched down the narrow way with a body of the Turkish Pasha's troops in front and behind. As soon as they arrived at the exit gate, it was suddenly closed upon them. The Pasha's men, at various vantage points, then opened fire, and those Mamelukes who tried to escape were cut down by the sword.

It is said that of the 470 Mamelukes who entered the Citadel, only one came out alive, having made his horse leap through an opening in the wall to the



Ernie Galloway

FELUCCAS WAITING FOR THE SWING BRIDGE TO OPEN

Every afternoon the feluccas gather near the Great Nile Bridge to wait for its daily opening. The bridge is then closed to road traffic for about one and a half hours, the exact time being proclaimed by notices put up at either end. Each morning a crowd of country folk may be seen crossing the bridge to go into Cairo's markets.



BERBER PEDLARS WITH BEAD NECKLACES AND FLY WHISKS F.N.A.

In making a bargain with a Cairo huckster the buyer must have endless patience. The argument about the price of each article is enjoyed not only by the pedlar himself, but equally by a crowd of spectators, who are always ready to gather round and watch a battle of wits. The Berber race is spread across Africa north of the Sahara.

moat below. The horse was killed by the fall, but the man escaped.

The first mosque to be built in Fustât was that raised by 'Amr Ibn Al-'Asi, who conquered Egypt in A.D. 639. The present mosque of Amr stands on the same site, but has very little of the original building in it. It is not very attractive but the people hold it in special veneration. It is said that, after a long, disastrous drought (1825-28) Moslems, Christians and Jews went there together to pray for rain. On the next day it rained. The credulous believe that one of the pillars was made to fly through the air from Mecca to Cairo by a blow from the Prophet Mahomet's whip.

All through this glittering city you will find strange monuments of the people - mosques in plenty, old Arabic gates, an endless medley of bazaars all hung with the brightly coloured merchandise of Eastern lands, ancient churches founded by the Copts, which was the name given to the earliest native Christians, mysterious lattice windows - all the fascination associated with the Orient, piled up like the jewels in Aladdin's cave.

And just a stone's throw away, on the threshold of the Libyan desert, the Sphinx looks out unceasing to the dim minar-its of the city, and the Pyramids rise like golden stairways to the blue of the sky.

Through Three Forbidden Lands

MAN AND NATURE IN TIBET, NEPAL AND BHUTAN

There are not many countries in the world to day where the white man may not travel. But here we are to read about three, which all lie close together. If we look at a map of Asia we find that India is shut off on the north by the Himalaya mountains, beyond which lies an immense and little-known territory called Tibet. The smaller mountain states of Nepal and Bhutan stand between it and India and are separated from each other by the tinier native state of Sikkim. Until Great Britain sent an expedition to Lhasa, the capital of Tibet, in 1904, only two or three white men had ever got to that mysterious town, and even now few indeed have seen it. I am fortunate in having this chapter from one who had that privilege

BETWEEN Sikkim and Bhutan there lies a strip of land which is the most southerly portion of Tibet, in parts the highest, the most beautiful, and in other parts the coldest and most barren country in the world. A gap in the great wall of the Himalayas, which cut off Tibet from the world to the south, serves as a gateway to this vast, forbidden territory.

This gap is the Jelep-la Pass, and has been closed for many years to all white men. But let us suppose a permit from the Indian government has taken us through closely-guarded Sikkim and will now carry us over the pass, which is nearly 15,000 feet above sea-level at its highest point, and down into the Yatung valley. One crosses a path and steps from the twentieth into the fifteenth century, leaving behind schools, theatres, newspapers, trains, motor cars and every other sign of civilization, and entering a land whose ruler, the Dalai Lama,

believed by his countrymen to be a god who has taken the form of a human being. In this land the only factories are of prayer, and machines for the mechanical recitation of prayers have been invented by the lamas, or Buddhist monks, who rule the country from their fortress-like monasteries or lamaseries.

The praying wheels are turned by wind or water and contain strips of thin paper on which is printed the Buddhist mystical prayer "Om Mani Padme Om" (Ah,

the jewel in the lotus, ah!). As these wheels revolve, the prayer is thus thought to be repeated countless millions of times. Small prayer wheels are carried in the hand by nearly everyone, and one passes long rows of them attached to the walls of houses and monasteries.

Another device for the easy production of "prayer" is the tall pole, twenty or thirty feet high, with thin straight strips of muslin nailed to it which flutter in the breeze, and upon which is



John Claude White

YAK DRIVERS IN WARM SHEEPSKINS

The intense cold of Tibet and the cutting winds often make travelling very hard, so yak drivers wear sheepskins. The yak, a long haired ox (see page 199), is the Tibetan beast of burden.



Percy Brown

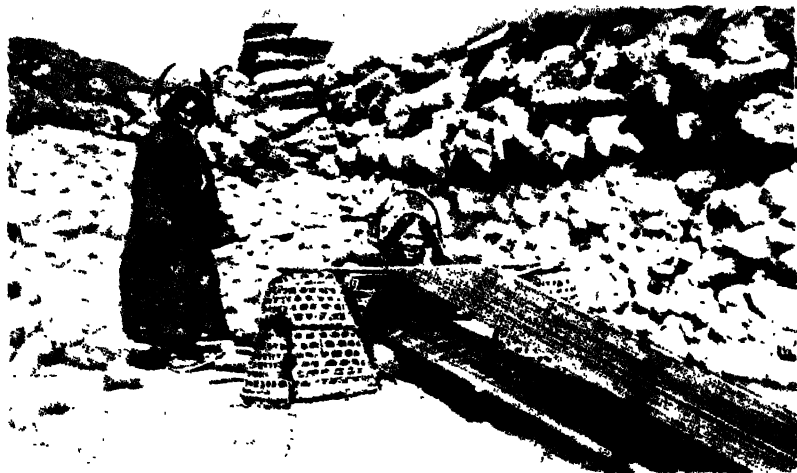
'TIBETAN ARCHER-MUSKETEER AT A SHOOTING COMPETITION

Every year there is a shooting competition in the Tibetan town of Shigatze. Competitors are armed with bows and prong muskets. The prong can be let down and used as a rest when the musket is fired from the ground. But at the competition each man rides at full gallop past two targets, shooting with bow and gun alternately.



AMAZING DEVOTION OF A BUDDHIST PILGRIM

Having vowed to make the pilgrimage from Lhasa to a monastery on the holy mountain of Everest, a distance of 200 miles, this man is doing the entire journey by a series of prostrations. He lies down, reaches as far as he can with his hands, marks the spot they touched, gets up, moves to the spot, and lies down afresh.



John Claude White

GIRL AT A SIMPLE LOOM MAKING YAK HAIR CLOTH

The wool is stretched out on frames in parallel strands. Other strands are then woven in and out at right angles until a wide strip of cloth is complete. A number of these strips are sewn together to make the ordinary garment, used alike by men and women, such as the weaver's companion is wearing.



John Claude White

WISE MEN OF TIBET WHO PARLEYED WITH GREAT BRITAIN

When the British Military Mission entered Tibet in 1904 to enforce the opening of trade routes between Tibet and India, there were long negotiations and councils. Above are four of the councillors who parleyed with the British. They thought that a "holy wall" of loose stones would be enough to stop the foreigners.

THROUGH THREE FORBIDDEN LANDS

written the same sacred text. These are the praying flags, or "horses of the wind."

The chorten, a pyramidal shrine for offerings, often built over the relics of some Buddhist saint, and the mendangs—long walls in the middle of the road, built for the most part of stones on which is inscribed the same Buddhist prayer—are so common that one comes to look on them as natural features of the country.

Flowery Valley and Bleak Waste

In May the Yatung valley is far more beautiful than the grandest scenery of the Alps, the ground is covered with spring flowers, while on the sides of the mountains the red blooms of the rhododendrons can be seen among the pine trees. The rocks in the stream are covered with green and yellow moss, which also forms a bed for gentian and anemones, celandines, wood sorrel and irises. Then a few miles beyond Gautsa, near the meeting-place of the sources of the Ammo-Chu river, one passes the last tree. The trees end abruptly at an elevation of 13,000 feet. Beyond it there is nothing but barrenness and desolation.

The Chumbi valley leads into the higher tableland, where you first see typical Tibetan scenery, and where the climate for the greater part of the year is terribly severe and in which the shaggy-haired Tibetan yak is the only beast which can exist without being miserable. A cold, numbing, grit-laden wind blows all the time over the high plains. In January the thermometer falls to 25° Fahrenheit below zero. The traveller goes 60 miles through this waste land at an average elevation of 15,000 feet before he sees the first solitary willow in the valley of the Paina-Chu. There is not a shrub more than a foot in height, and only the yak can find anything on which to feed.

Rare Pieces of Cultivated Ground

In the valley of the Paina-Chu the traveller comes upon the first of the plains where the ground can be cultivated. There are very few of these in Southern Tibet, but every bit of them is used

to grow food for men and beasts. After three days' travelling one enters the treeless region again, and on the fourth night the camp is pitched in the snowy range of Noi-jun Kang Sang, nearly 1,000 feet higher than the top of Mont Blanc! The Karo-la or Karo pass (16,500 feet) lies under the summit of the range (24,000 feet) and magnificent glaciers come down to within 500 feet of the track. Then the road descends to the basin of the great Yamdok Tso, the Turquoise Lake, a wild and beautiful stretch of water, its channels winding into the dark crannies of the hills, valleys of mystery and gloom, which no white man has ever trod.

The road to Lhasa runs along the edge of the water for a long way and then goes up the ridge to the north to the Khambala, 1,200 feet above the lake-level.

The Great River of Tibet

The path makes a sudden turn, and the traveller looks down into the great trough where the Tsang-po river cuts through the bleak hills and desert tablelands of Tibet from west to east. This is no detached oasis, but a continuous strip of fresh vegetation, rich and fertile. The Tsang-po and its tributaries have drawn to them half the population and the greater part of the merchandise of Tibet. A mysterious river, in parts unexplored, it was only discovered to be a part of the Brahmaputra, which flows through Assam, within the last few years.

The river is crossed by a ferry at Chaksam and is 140 yards wide here, flowing so swiftly that it is dangerous for boats; yet the Tibetans in their light craft made of hides can go up or down the river for a distance of 100 miles. It is the main way for traffic in the country and the highway of the Lord Buddha, being crowded with boatloads of pilgrims in seasons of festival. A hundred miles up stream the Panchen Rinpoche or Tashi Lama of Tashi Lunpo holds court; he is the "Great Precious Teacher," the second of the Grand Lamas of Tibet. He is considered even holier than the Dalai Lama himself, whose power is political, and for



A "DEVIL DANCER" who takes part in the religious dances makes himself look as dreadful as he can. With the grotesque mask and head-dress that he is wearing, the lama as monks are called in Tibet, is here supposed to represent the sort of fiend that Tibetans will meet in the next world if they do not lead good lives in this one



BUDDHA WONDERFULLY EMBROIDERED ON AN ENORMOUS BANNER AT A LAMA FESTIVAL
Innumerable crowds collect from all over Tibet and sometimes from countries beyond the frontier, such as Nepal and Mongolia, to watch the ceremonies at a lama festival. Most of the country round is bleak and often dreadful in its loneliness, and so, within the monasteries, the monks do all they can with bright tints on their walls and in their clothing to make up for the colourless scenery. The sides of the buildings are painted red and the banner is embroidered with gorgeous colours, which all help to attract the crowd.



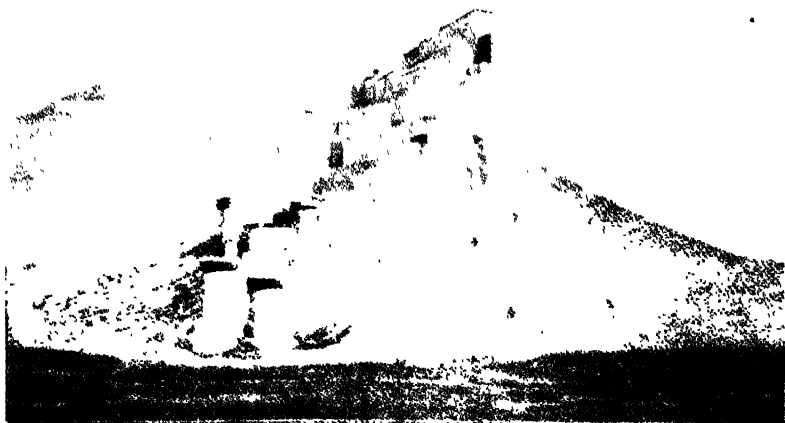
→ MASKED LAMAS IN THE MIDST OF A "DEVIL DANCE" IN A MONASTERY COURTYARD

Here is the crowd again, gathered round a courtyard to watch they believe are waiting for evil doers when they come to die. In a sight that always attracts the Tibetans. The Lamas have put a far corner is the orchestra, consisting mostly of drums and cymbals on frightful masks, which consist of a complete false head and head- but also of two enormous trumpets which are blown to scare away evil spirits. The noise produced is like that of a low howling.



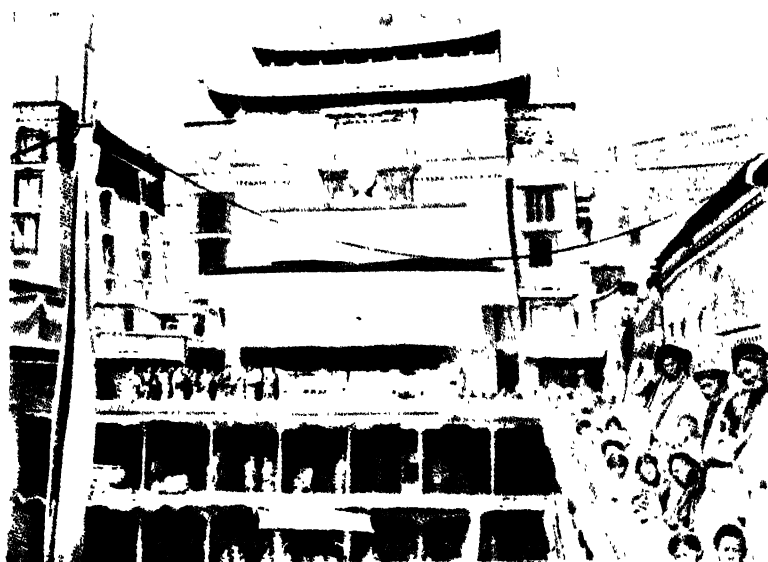
WHO TRIED TO STOP A BRITISH EXPEDITION
 the most important man in Tibet after the Dalai Lama himself. The Tashi Lama, also called the Panchen Rinpoche, is abbot of Tashi Lhunpo, and here he is seated in his tent with his secretary and the religious ornaments without which no Buddhist dignitary ever travels.

IN HIS HAT OF AUTHORITY: BUDDHIST ABBOT
 In Tibet the most important people are the religious authorities, who are also the statesmen and ambassadors, when needed. The British Military Mission to Lhasa in 1904 was met at the great stronghold of Khamba Tong, seen in the following page, by the Tashi Lama



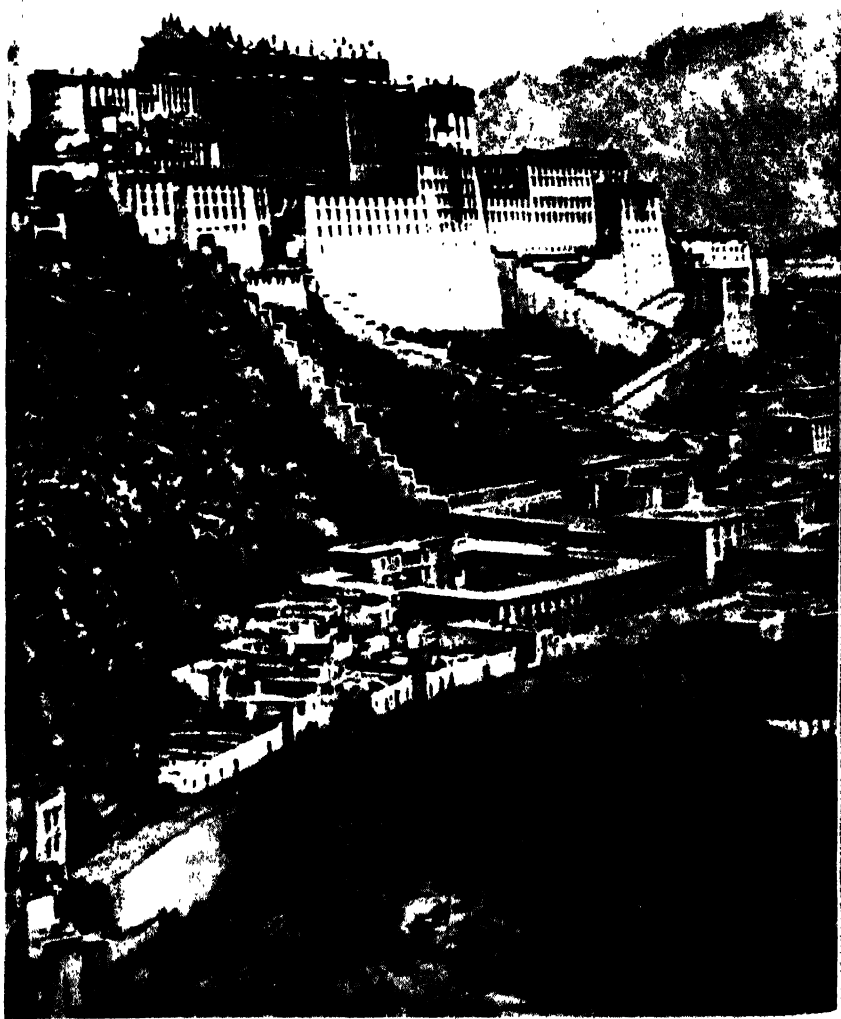
KHAMBA JONG, ONE OF THE HUGE FORTRESSES OF TIBET

There are few more desolate places than the plain which stretches away before the great fort of Khamba. It is 15,000 feet above the sea, and 100 miles from Mount Everest, which can be seen on a fine day. Just a little grass grows here and there amid the expanse of boulders, coarse grass that provides food for the hardy Tibetan yak, and over all the dust is blown by the cold, strong wind.



THE NEW YEAR FESTIVAL AT TASHI LUNPO MONASTERY

Tashi Lunpo, whose abbot is seen on the opposite page, is built by the banks of the great Tsang-po river to the west of Lhasa. It is, next to the Potala at Lhasa, the holiest monastery in Tibet, and there are always tremendous crowds who gather at the festival of the New Year, which is known as the "Losar," and for the celebration of which there is a fortnight's general holiday.



THE POTALA, fort, palace and monastery, is one of the most marvellous buildings in the world. For centuries it was never seen by white men save for solitary travellers at long intervals. It houses the Dalai Lama, whom Tibetans believe to be an incarnation of Buddha, who is re-born in another person as soon as the old incarnation is dead.



High up in the white fortress walls is row after row of windows, while above can be seen the red-painted palace of the Dalai Lama himself. Down the front of it hangs a vast curtain of yak hair screening the holy of holies. The roof of this tremendous place is gilded and flashes in the sunshine. The holy city of Lhasa itself is out of sight to the right.

THROUGH THREE FORBIDDEN LANDS

that reason, perhaps, his spiritual qualities do not rank so high as those of the Panchen Rinpoche. One is the "Great Precious Teacher," the other the "Great Precious King."

Lhasa, the City of Mystery, blessed by the Buddha, and the Potala, the palace in which lives the Dalai Lama, lie three days' journey beyond Chaksam, but it seems at least three times as long as that.

Lhasa is hidden from sight until the very end of the journey, as a city of mystery should be. The first view, at about seven miles distance, is of the Potala, which seems to be a golden dome standing out on a steep rock in the centre

of the valley. To the south the Chagpo-ri, another such rock, rising from the banks of the Kyi Chu, is crowned by a yellow fort and the Lamas' Medical College. The narrow ridge between this rock and the Dalai Lama's palace, not more than thirty yards wide, is bridged by the Pargo Kaling, a typical Tibetan chorten, through which is cut the main gateway into Lhasa.

Lhasa, like any other Tibetan town, is poverty-stricken and filthy beyond description. Undrained and unpaved, the houses poor and uncared for, the streets are pools of stagnant water, in which pigs and dogs search for refuse. Even the Jokhang, the cathedral, the holy of holies



John Orlando White

WIGGED NUNS OF A TIBETAN CONVENT

There are nunneries as well as monasteries in Tibet. The nuns shave their heads and wear enormous wigs, but lay sisters—that is, those who serve the community but do not lead the full religious life—may keep their own hair. The Abbess, who is really bald, is the one with the largest wig sitting in the front row.



Georg Haeckel

ONE OF THE MAGICIANS WHO TERRORISE TIBET

Before Buddhism was established in Tibet the country had a religion of its own called Bon. This had much to do with demons and ghosts, and when the purer faith was introduced the Bon religion unfortunately became much mixed with it. A magician's duty is to discover any demon supposed to be doing harm, and to drive him off by magic

not only of Tibet but of all Asia that worships Buddha, appears mean and dirty at close quarters, since its five golden roofs—the only bits of colour that are to be found in Lhasa except the blue of the Yutog Bridge—cannot then be seen

From the outside nothing is splendid

in Lhasa except the Potala, which rises high above the miserable huts in which the people are huddled at its foot. The palace catches the eye at once. It is not a palace on a hill, but a hill that is also a palace. The rock is merely the foundation stone; the palace has hidden it. It is



John Claude White

THE MAHARAJA OF BHUTAN makes a fine figure seated in the midst of his councillors. Round his neck is the broad ribbon, supporting a medal, that shows him to be a Knight Commander of the Order of the Indian Empire. This honour was conferred on him for helping the British Mission that went to Lhasa.



John Chubb

THE SPIRIT OF BUDDHA is said by the Bhutias to have entered the body of this gorgeously robed young man, just as the Tibetans hold that it dwells in their own Dalai Lama. The youth is called the Avator of Thaling because his monastery is at Thaling, in Bhutan. The old man on his right is his teacher and guardian.



HOW TIBETAN WOMEN DO THEIR HAIR

The hair is plaited, the plaits being drawn through these strange ornaments and left to hang down on each side. The girls are serving-maids, and they are displaying some of their beautiful native copper ware

Percy Br. W. W.

difficult to discover where the rock ends and where the building begins. High above the causeway the south-east face flashes white in the sun, a stretch of 900 feet of bare wall without a break, then at the height of a church steeple row upon row of windows, thousands of them, little oblong openings which look like upright dominoes.

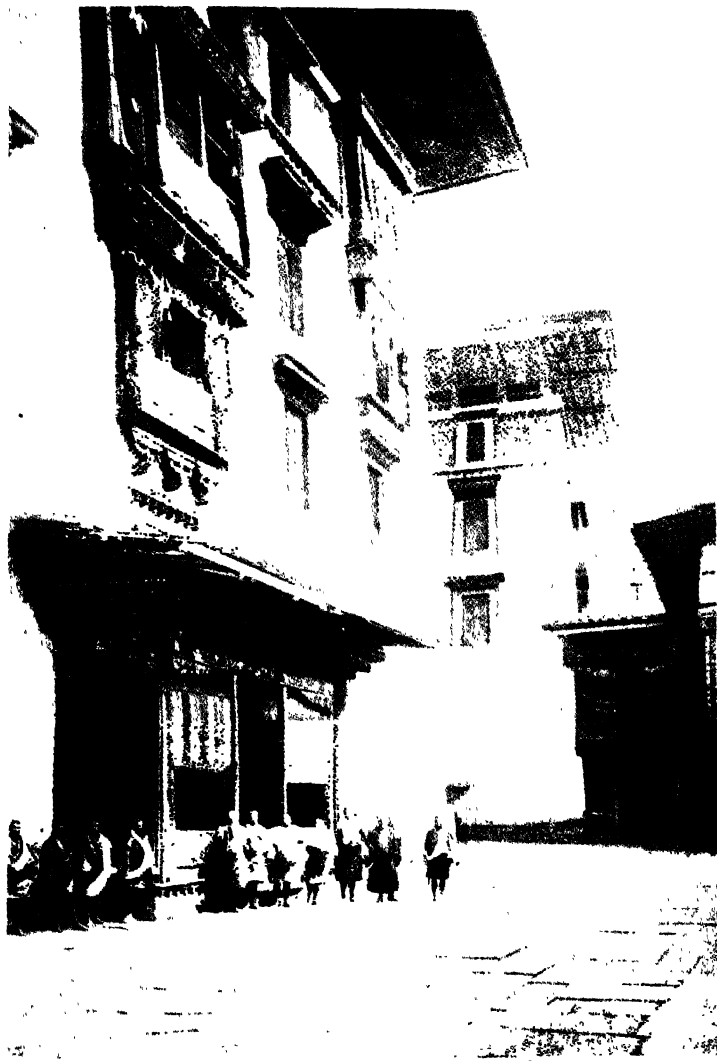
On top, in the centre of this massive block of rock and brick, stands the Phodang-marpo, the red palace of the priest-king, in tiers of bright crimson. But the feature that most catches the eye, even more awe-inspiring than the golden roofs and ornamented gables, is the magnificent curtain of black yak hair, the veil of holiness and solitude which effectually conceals the god from the public gaze.

The outskirts of Lhasa make up for the dirt and unsightliness of its streets. It is a waterlogged city, approached from the west by a stone road raised over a marsh. The visitor passes beautiful spots in the Tsang-po valley and lower down the Kyi Chu, but these are only patches of fertility and he does not expect to see the wide, open belt of green by which Lhasa is encircled — willow groves divided by clear running streams, swaying poplars, walled-in parks with palaces and fish-ponds, marshes where the wild duck have become bold, because they have been left undisturbed, and rich barley fields stretching away to the hills.

The lamaseries outside the city are almost hidden by trees and their golden pagoda-shaped roofs have a background formed by the green base of the mountains. Each is a little town in itself. In design the Tibetan lamaseries are all very much alike, a warren of monastic buildings,

temples and narrow streets, perched in white tiers on stone terraces built out from the rocky sides of the hill, honey-combed with passages, halls, chapels and cells. In the dark and grimy recesses of the temples loom the great gilded Buddhas, life size, covered with precious stones, especially turquoises. In some of these monasteries Buddha is truly worshipped, but for the most part the monastery is a storehouse of lumber and superstition.

The smell of the butter lamps before the altar is almost suffocating; their smoke has hidden the showy paintings on the wall. It is a relief to look through the dark pillars to the cloistered courtyard and quadrangle outside, where the sun is shining and familiar English flowers bloom in the garden. The truth is that



John Claude White

SPLENDID BUILDINGS OF A STRONGHOLD IN BHUTAN'S HILLS

Better preserved than the Tibetan jongs, the forts of Bhutan, although they are less strong, have been built more with an eye to appearance. On the far side of the court is a roof much lower than the others, and on it can be seen some huge stones which have been placed there to keep down the tiles in high winds.



John Claude White

THE DEB RAJA is a king without power, the real ruler being the Maharaja. But as the temporary head of the Buddhist Church he is here gorgeous in yellow brocade, while behind him and before are marvellous banners worked with fabulous beasts. On the table are the drum, bell and vessels of silver and gold used in Buddhist services.

THROUGH THREE FORBIDDEN LANDS

Lamaism has sunk back into the worship of spirits, which are supposed to live in all objects. Even the stranger in Tibet feels that if there are gnomes or genii anywhere on the earth it must be in these savage wildernesses, where every rock and cavern is marked with superstitious emblems.

There are happier sides to the picture. Most travellers in Tibet will remember being entertained by jolly abbots and contented attendants. In the Rongbuk valley, for instance, where the Everest Expedition discovered that the wild mountain sheep were the friends of the hermits and would come to feed out of their hands.

But the Tibet of the oak and chestnut and birch and rhododendron, known by travellers over the Indian frontier, is but a narrow strip of green country at the beginning of a mountainous desert. Central and Northern Tibet form a vast and cheerless tableland. From the passes north of Lhasa there is a view of many ranges of mountains of the same height, stretching away in endless ridges. This is only the beginning of the wilderness, which continues far away to the borders of Mongolia and Chinese Turkistan.

A Great Stairway to Tibet

At the eastern end of the Himalayas is the mountainous country of Bhutan, which is closed to the traveller as is Tibet, and remains just as uncivilized. The land consists of range after range of mountains, between which lie narrow valleys watered by fast-flowing streams. The best idea of Bhutan can be got by imagining it to be a gigantic stairway leading from the hot, damp plains of Bengal to the tableland of Tibet.

Bamboos and lovely tree ferns are found in the lower valleys, and oaks and rhododendrons cover the sides of the mountains up to a height of 8,000 feet, at which point they are replaced by dark forests of pines and firs. In case it might be considered pleasant to travel through such scenery, it is as well to remember that, owing to the damp atmosphere, a leech is waiting on

nearly every leaf that overhangs the path, ready to attach itself to any human being or animal that passes by. Besides the leeches, there are many kinds of stinging and biting insects to torment the traveller. High up on the sides of the mountains can be seen the great Buddhist monasteries where live the lamas, who are almost as numerous in this country as in Tibet.

Fortified Mountain Passes

Guarding many of the passes, especially those leading to Tibet, are great fortresses, each of which contains a central citadel occupied by the governor and his family. Both the monasteries and forts have overhanging eaves and wooden galleries, which seem, amid the surrounding mountains, to remind one of Switzerland.

Bhutan is usually entered from Buxa, Bengal, whence the road bends and twists like all Himalayan paths until it reaches Punakha, the largest city and the seat of government. There is another way into the country up the valley of the Manas River, which rises in the Tibetan lake Yamdok Tso and flows across Bhutan from north to south, but as yet practically nothing is known about the northern and eastern borderlands.

The Bhutias, as the inhabitants of Bhutan are called, have built their little villages chiefly in sheltered spots where they can grow wheat, barley, millet, mustard and chillies. Owing to the hilly nature of the country they make their fields in series of terraces, each of which is supported by a stone embankment, which may be as much as 20 feet in height. They do not cultivate more land than is absolutely necessary, since should there be anything left over to sell, it would probably be taken from them by the lamas of the nearest monastery or by the governor of any fort in the neighbourhood.

Rulers of the Country

The government of the country was originally supposed to be in the hands of two people, the Dharm Raja and the Deb Raja. The former is elected by the



John Claude White

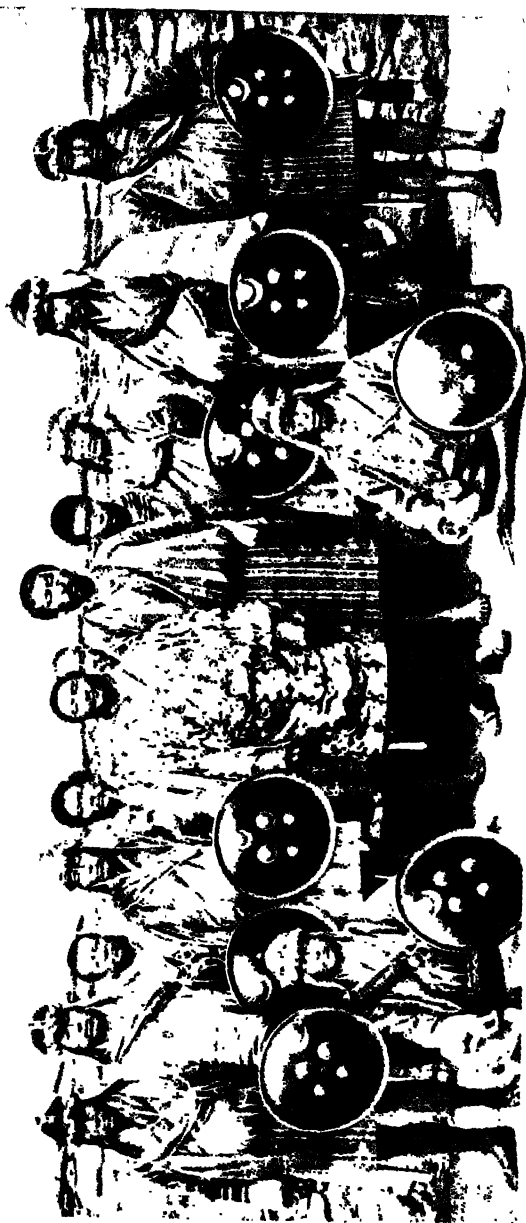
LUNCH-TIME AT AN ENCAMPMENT AMONG THE GRAND SCENERY OF MOUNTAINOUS BHUTAN

When the British Resident of Sikkim went to Bhutan to confer the Order of the British Empire upon the Maharaja, or King, the Expedition had to be a large one on account of the wild state of the country. Here the party is seen camped on a plateau, 15,000 feet above sea-level. Beyond are some of the wonderful mountains of Bhutan, whose slopes are covered with forests lower down, but which, at this height, are becoming barer as the summits are approached. The coolies, or native porters, are sitting down for their midday meal



TRUMPETERS AND DRUMMERS OF A BHUTAN FORT TURNED OUT TO WELCOME BRITISH GUESTS
 To receive the British Mission to the Maharaja of Bhutan one of the forts which the Expedition visited turned out its band in welcome. The trumpeters are clothed in scarlet uniforms, and it will be noticed that their instruments are much shorter than the trumpets of Tibet.

John Chausse White.



STALWART LIFE GUARDSMEN IN THE BODYGUARD OF THE MAHARAJA OF BHUTAN

The Maharaja of Bhutan keeps a company of bodyguards to protect his royal person. They are armed with swords, which, we notice, they wear on the right hip, whereas the British regiments use the left. The shields are made of hide, with metal bosses for extra strength, and each warrior's headpiece is of steel swathed in bright coloured silks. The scabbards of the swords are of silver. The wonderfully patterned garment worn by the king, who stands in the centre of his warriors, is of Chinese brocade and called a "boku."



John Claude White

THE MAHARAJA AND SOME MEMBERS OF THE ROYAL FAMILY

His Majesty is standing on the top step and to the left of the group. Next him is his sister, her grandchild and her daughter. Seated below are the king's two daughters, and a male and female retainer make up the party. The Maharaja's sister looks after the food and clothing of the royal household, which numbers several hundred people

lamas and is believed by the people to be a god. Now he has very little authority except in questions of religion. The Deb Raja was the king, but at present has no power except when on the death of a Dharm Raja he has to fulfil temporarily his religious duties. Until the end of the last century there was practically no form of government, the strongest governor making war on the weaker ones and acting as a king in his own district, while the poor people were robbed and oppressed by everyone. The present ruler is a Maharaja, who has had to fight hard to make the governors recognise his authority.

The huge monasteries are mainly responsible for the backward condition of Bhutan, since into them go so many of the nation's best men, who might be better employed in farming, trading or preventing raids on the northern and eastern frontiers. The Maharaja has, however, done much

to break the power of the lamas and to check the abbots of the lamaserics, who were continually intriguing with the Grand Lama of Tibet.

The inhabitants of western Bhutan are very much like the Tibetans in appearance, and are a cheerful people, but very suspicious of strangers and guard their country jealously. They have to work hard in their terraced fields, which are sometimes swept away down the hillsides by the terrible storms that break over the mountains. Since the officials receive no regular salary, they take what they can from the people of the district, who can do nothing to protect their property. In eastern Bhutan, which is practically unexplored, there are people who are believed to be related to the tribes living on the borders of Assam, but owing to the hostility shown to strangers, and the absence of any good roads, so little is



A PARADE OF THE DEB RAJA'S MUSICIANS AND A GROUP OF LAMAS AT A RELIGIOUS DANCE
 In the top photograph we see the private band of the Deb Raja. There are trumpeters in red, drummers in green, and a choir of singing girls. The lower photograph shows lamas in their robes of Chinese silk and their masks, made of papier mache in this case, though usually these hideous objects are of wood. The devil dancing consists of a series of shufflings and turnings; it is performed outside a "gompa," or temple, to the accompaniment of prayers and of the band, which is seen on the left, and may last for three or four days.



John Claude White

LAMAS WHO BEAT TIME FOR THE MASKED DANCERS

There are devil dancers in Bhutan as well as in Tibet, and the same sorts of instruments are used, the trumpet, drum and cymbals. The noise is not unpleasant but very monotonous. There is no attempt at a tune, but just a rhythm to keep the dancers in time. The drum-sticks are of metal and shaped like question-marks.

known of this forbidden land that many very interesting secrets may yet be revealed when the white man is at last welcomed to the country.

To the west of Bhutan, and only separated from it by Sikkim, is the independent state of Nepal, which stretches along the Himalayas for a distance of five hundred miles. The whole country is a wild tangle of mountains, the only flat space being the valley of Nepal, in which stands the capital, Khatmandu. Outside this valley there are no roads, no towns and not even any large villages. Although Nepal is under the protection of the Indian Government, the only white men allowed into the country are the Resident,

who is the representative of the Government, and the officers commanding the Resident's escort.

There is a narrow strip of cultivated land where the foot-hills of the Himalayas slope down to the plains of northern India, and beyond lies a belt of jungle twenty miles wide and known as the Terai, one of the finest regions for big game hunting in the world. After passing through the Terai the traveller is faced by a succession of mountain ranges which extend right away to Tibet, the highest peak being Mount Everest, 29,002 feet, which stands on the frontier between the two countries. There are several other mountains over 20,000 feet high.



John Claude White

GAILY DRESSED LADIES AND GIRLS, THE ATTENDANTS OF THE QUEEN OF NEPAL

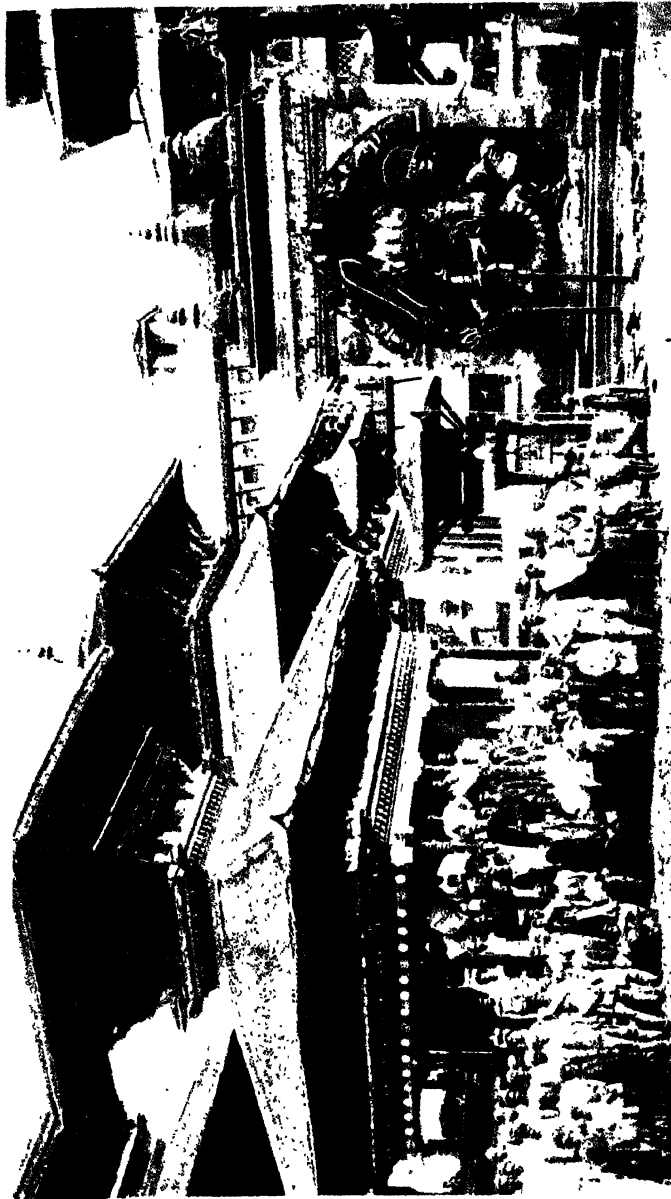
We now enter the country of Nepal, which, like Tibet and Bhutan, is forbidden to Europeans and still remains a land of mystery. All the state lies within the Himalayas and is inhabited chiefly by hardy races of mountaineers the Gurkhas and Newars. The rulers of Nepal



John Claude McFee

RANEE OF NEPAL SEATED AMIDST THE LADIES OF THE COURT WHO WAIT UPON HER

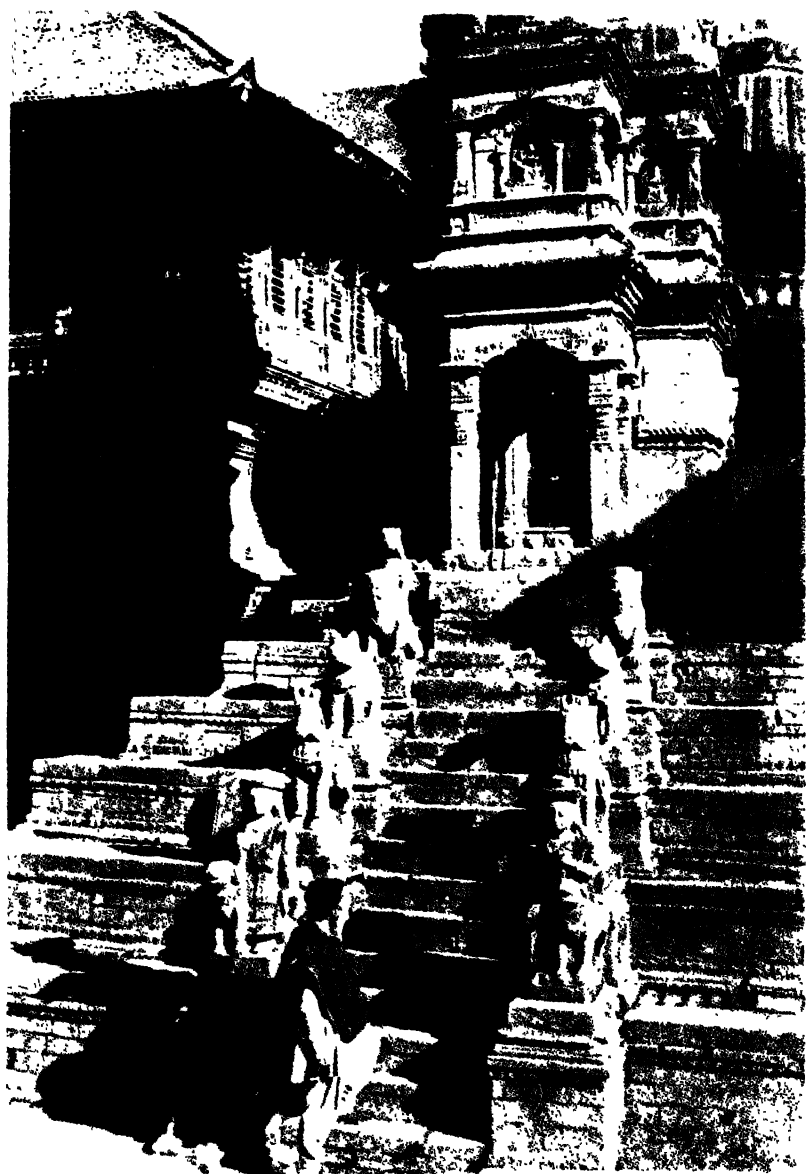
The figure of the Rance is completely hidden by yards and yards of material, which are spread out over the sofa. On her head is a wreath of flowers, which are beautifully modelled in silver and gold. In public she is always escorted by her ladies-in-waiting, who carry like balloons as the material is arranged over a light frame-work



JOHN LAMOND WELLS

IMAGE OF KALI, THE HINDU GODDESS OF DEATH, IN KHATMANDU, THE CAPITAL OF NEPAL

Both Buddha and the Hindu gods are worshipped by the people of Nepal, and sometimes the same temple is used as a place of worship by members of both religions. Kali may be represented as a beautiful woman riding a tiger, or, as in the photograph, as a hideous black creature with many arms, wearing a necklet of skulls. Khatmandu is in the Valley of Nepal, and just outside are the Maharaja's palace and the British Residency. Many buildings have several roofs with overhanging eaves and carved woodwork.



John Claude White

SIRANGE STONE FIGURES BEFORE A TEMPLE IN BHAIGAON

When the Newars ruled Nepal, Bhatgaon was one of the capitals, the others being Khatmandu and Patan. Many of the fine buildings in the city are now deserted, as all the officials live in Khatmandu. Flights of stone steps lead up to the larger temples and palaces, and on either side are carved figures of animals and quaint human beings.

THROUGH THREE FORBIDDEN LANDS

The main road, or perhaps it would be more correct to say track, into Nepal, and the one over which visitors must pass, starts from Raxaul, a railway station on the Indian frontier. From here it leads through the Terai and up over the Sisagarhi Pass, which is guarded by Nepalese troops. It then dips down to the Panoni River before climbing up the Chandragiri pass, from the summit of which the capital can be seen.

In Khatmandu are the government offices, the palaces of the rulers and the great temples and shrines. The king of Nepal is known as the Maharaj Dhiraj, but the real ruler is the Minister, who also has the title of Maharaj. At one time there were three distinct capitals—Khatmandu, Bhatgaon and Patan, but

under the Gurkhas, Khatmandu became the official capital.

The two most important races living in Nepal are the Newars and the Gurkhas. The Newars were the original inhabitants of the country and are the craftsmen. These men are skilled in the making of gold and silver ornaments, brass and iron utensils, and the women weave the cotton cloth used by the poorer people. The Gurkhas conquered the Newars and are famous as first-class fighting men, since they enlist into the Indian Army to form the Gurkha regiments. Both races have Mongol features, are cheerful and good-tempered.

Hinduism and Buddhism are the two religions of Nepal and they are equally popular. Hindu gods and Buddha are worshipped in the same temple.



John Claude White

TEMPLE AND TIERED BUILDINGS IN THE CITY OF PATAN

On the left is a temple with lions guarding the flight of steps leading up to the entrance, and on every side are buildings with two or three roofs, which are only found in Nepal. Patan is situated not far from Khatmandu, and, owing to its shape, is believed by the Newars to be the wheel of Buddha; but like Bhatgaon it is partially deserted.

Lands of the Sugar-Cane

THROUGH CANE-FIELD & FACTORY IN MANY CLIMES

The ways of Nature, we find, are often not the ways of man. An attempt to transplant living things from their original homes may have unexpected results, as the Australians discovered to their cost when the rabbit came to their country. But no such disaster attended the introduction of the sugar-cane into the West Indies by the Spaniards more than four hundred years ago, so that to-day it is these verdant islands which we seem to see when we think of the Lands of the Sugar-cane. In this chapter, however, we are to be taken as well to those Eastern lands where the cane first grew and to other places whither its cultivation has spread.

THE first people to discover the value of sugar were the natives of Bengal, in India. Some enterprising men found one day that the plant we now call the sugar-cane, when crushed, would yield a sweet and succulent juice from which sugar could be made.

Not that the cane is the only sugar-producing growth. The same sweetening matter can be got from the date-palm of India and Arabia, as the people of those countries soon discovered; from the maple in Canada; and from the sap of many other trees. And, of course, it exists in almost every fruit, as well as in the nectar of flowers, from which bees make their honey. More recently the beet-root has been grown in enormous quantities for this purpose; to-day it supplies about half the sugar eaten in the world.

In those early days—nearly three thousand years ago—when the Bengalis were first making sugar for their own use, Chinese traders learnt the art from them and introduced it into their country. The sugar-cane could flourish as well in China as in India, and particularly so in the kingdom of Annam.

Making Sugar in Annam

In the last-named country sugar cultivation became an important industry. Indian methods were copied, and to this day we can see there the primitive cane-mill which has been in use for so many centuries. It is made of three rollers of hardwood, two of them turning against the third, which is geared to move in the opposite direction. The motive power is supplied by a buffalo, a native feeding

the mill with canes while the animal traps round and round.

This method of extracting the sugary juice is much the same as the "Muscovado" process that has long been in operation in the West Indies. The juice thus squeezed out of the canes is poured into large copper pans, where it is mixed with some refining material such as ashes, clay or lime. After this it is heated in order to remove impurities, the sugar syrup remaining on the top of the liquid.

Coming of the Cane to Cuba

When the juice has been heated for some hours sugar crystals show on the surface; it is then poured into earthenware jars to cool, and the sugar crystallises out from the mixture. The rest of the syrupy liquid is allowed to drain off, this being the molasses which are used for the making of inferior grades of sugar.

The final stage in the proceedings is to dry the wet sugar, and Annam's hot sun does this effectively. As one of the pictures shows, the sugar loaves, emptied from the jars on being cooled, are left to stand upon an outdoor table, where they soon become dry and hard.

That is how they do it in Indo-China. When we speak of the sugar-cane, however, our thoughts naturally turn at once to Jamaica and Barbados, the two islands in the West Indies that have been so long associated with sugar-planting. The first West Indian island in which the cane was cultivated was Cuba. It was the Spaniards who introduced it, and through them, and the efforts of English settlers elsewhere in the

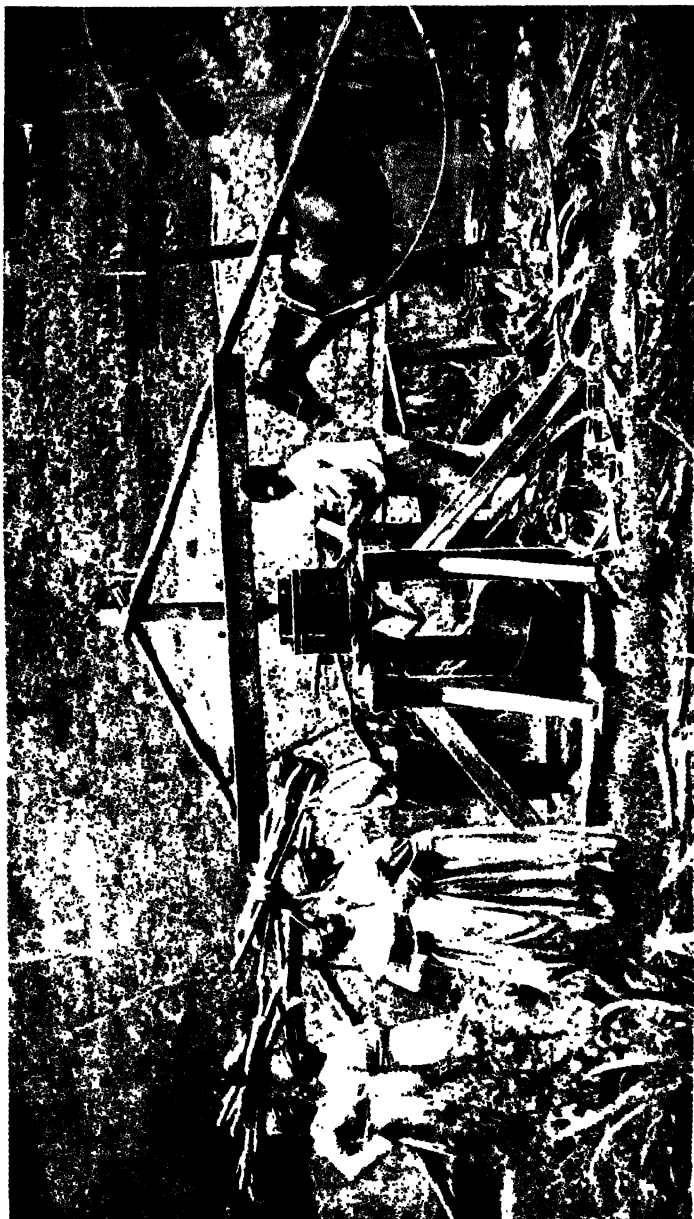


IN THE PLANTATIONS OF JAMAICA: NEGRO WOMEN HOE THE SOIL BETWEEN THE YOUNG CANES
The sugar-cane, which is now grown in nearly every tropical country in the world, is really native only to India and Malaya. It did not reach America and the West Indies until after 1500, taking as steps on its great westward journey Egypt, Sicily, Spain, Madeira and the Canaries. Cuba, Jamaica and Barbados now grow more than a third of all the cane-sugar that the world uses, and the roots are planted, the young canes tended, and the harvesting done by negroes —people who are as foreign to the place as is the sugar-cane itself.



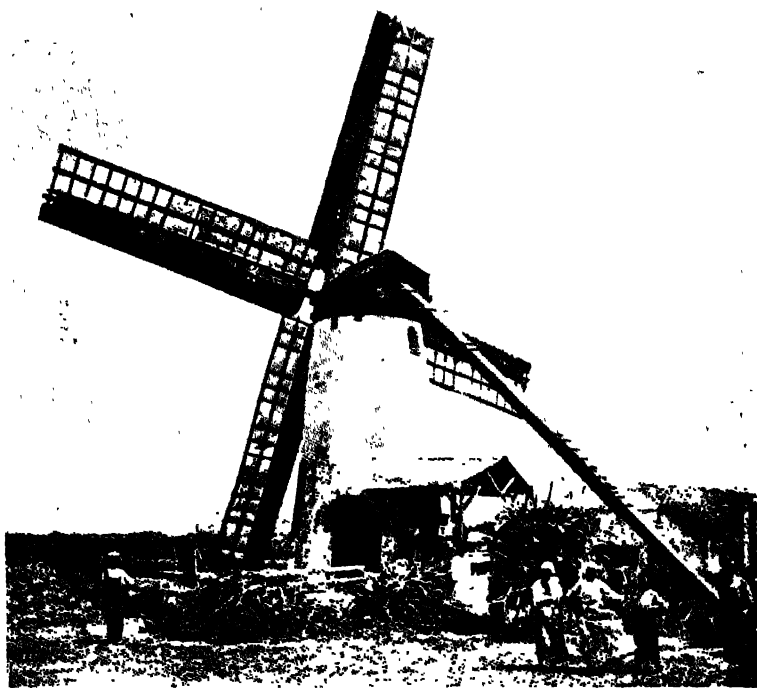
AT HARVEST TIME THE NEGROES OF JAMAICA REAP THE CANES WITH LONG, SHARP CUTLASSES

Although a grass, the sugar-cane is far larger than any of its relations like those of other grasses. The best time for the sugar harvest is that grow in cooler parts of the world, for it sometimes grows three after flowering time, and then the negroes cut the canes just above times as high as a man, and its stems may be as thick as chair-legs the ground. The reaping is nearly always done by hand, as no But its long, thin leaves and its plummy heads of flowers are very machine has yet been made which is able to do the work so well



ONE WAY OF GETTING THE SUGAR FROM JAMAICAN CANES : A SIMPLE WOODEN HORSE-MILL

As soon as they are cut down, the canes are broken into pieces about three feet long, and these are tied into bundles which negro women balance on their heads and carry to the crushing-mill. The mill is worked by a horse which has patiently to circle round and round it. The juice out of the canes falls into the bath beneath. Of course, this is a very primitive way of getting the sugar, and we can easily see that it must be very slow and very wasteful. All the big plantations now have great mills which are worked by modern machinery.



IN BARBADOS EACH PLANTATION HAS ITS OWN WINDMILL

Barbados, one of the islands of the West Indies, lies right in the path of the Trade Winds, which blow from the north-west all the year round. The sugar growers of the island use this steady wind by making it turn the great sails of their windmills.

The sails turn the mill wheels, and they crush the sugary sap out of the canes

West Indies, the cane quickly spread to most of the other islands.

British Guiana, on the north-east coast of South America, saw the first cane-mill erected, it was set up in Essequibo. We may be sure that Jamaica and Barbados, and smaller islands like Antigua and St. Kitts, were not long in following suit. Once the success of sugar-raising was realised, the West Indies entered upon a career of prosperity.

Those were the days when the planters made great fortunes. Labour was cheap, because slavery had not yet been abolished. Negroes toiled in the fields, while the planters rode or drove about the townships and enjoyed life to the full. The West Indianmen sailed into their ports with consignments of costly furniture, rich

dressings and every luxury they desired. The sugar-planters' "Great Houses" were the scenes of high festivity, especially when a British ship visited their island.

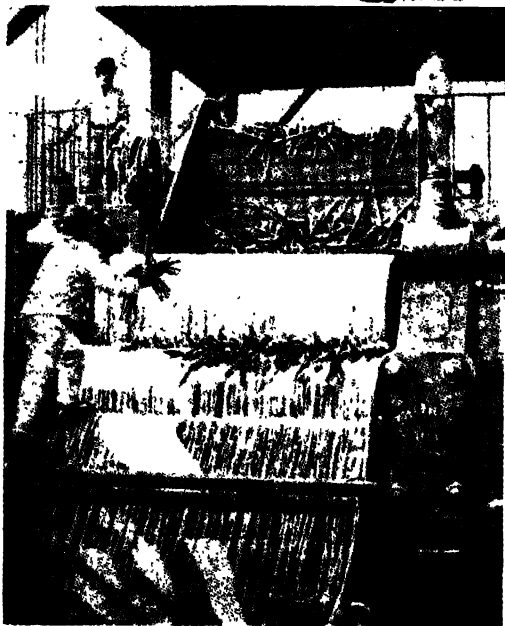
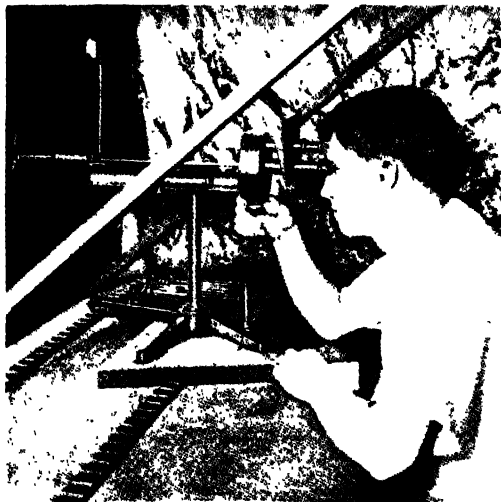
There were several reasons for the later decline of the sugar industry in the West Indies, particularly in Jamaica. One of the chief causes was the abolition of slavery. The Emancipation Act of 1833, by which the negroes were freed, threw the islands out of joint. Generous compensation was made by the British government to the former slave-owners, but the new order of things was fatal to the prosperity of the planters.

The negro worker saw no need now to toil in the cane-fields under the hot sun, as he had hitherto been forced to do. Life in such an island as Jamaica was

LANDS OF THE SUGAR-CANE

easy and comfortable, so long as he had a hut to shelter him and plenty of native fruit and vegetables for food. So labour fell off, fields remained untended, factories that had been so busy became idle, and hundreds of planters sold their properties and returned to England.

That was the case with Jamaica principally. In Barbados things were not so disastrous. To this day sugar is still the principal source of wealth there. In British Guiana, Antigua, St. Kitts and St. Lucia, also, there is a great deal of sugar-cane grown at the present time.



MACHINE-WORKED CRUSHING MILL OF CUBA

This crushing machine is certainly a great advance on the horse-and-buffalo-worked mills shown on other pages, and it is only one of several machines that the cane passes through before all the syrup is squeezed out.

TESTING THE SUGAR'S STRENGTH

Sugar making is now a very complicated process. Here we see an instrument which finds out how much water there is in the cane syrup by passing light through it.

But the greatest blow that sugar-making from the cane has received was when it was discovered that the beetroot was singularly rich in sugar. Since such an important new use was found for this well-known vegetable it has been cultivated on a tremendous scale. It is calculated that more than six million tons of sugar are prepared from beetroot in Europe every year. One of the greatest sources of supply is Saxony, where, as in East Anglia, the soil is particularly well suited to its growth.

Possibly as a result of the up-and-down fortunes of sugar-planting, we find old-fashioned estates and old-fashioned methods side by side with the modern ones in the West

LANDS OF THE SUGAR-CANE

Indies. On the old plantations the process known as the "Muscovado" is still in use. On the more up-to-date plantations the "Vacuum" process, with its scientific developments, is employed. These will be described in due course.

An interesting feature of the sugar industry is the variety of mill which is to be seen. Imitating the old-time Indian and Chinese methods, there is, here and there, the horse-driven cane-mill, elsewhere, wind or steam or electricity does the work, according to the position of the owner. In Barbados the windmill has always been popular, and it is now quite a feature of the island scenery.

What a field of sugar-canes looks like may be gathered from the pictures, which show a number of negro men and women at work. In the tropical West Indian

climate the canes grow to a height of from fifteen to twenty feet. In the best of the cultivated species the cane stem is much thicker than that of the original common sugar-cane of the East, and the yield of sugar is consequently larger.

A new plantation is formed by taking cuttings from fully-grown canes. In Barbados these are stuck into holes in the ground; in British Guiana it is the practice to lay them in furrows. Either way is successful, and the new canes are full-grown in nine to eighteen months' time, according to climate.

Note the formidable knives that the negro workers are carrying. These are called "machetes," and are more of the nature of cutlasses. With these sharp weapons the cane-cutters soon make a wide swathe through the field. The



South African Govt.

COLOURED WORKERS MAKING LUMP SUGAR IN SOUTH AFRICA

In the making of lump sugar, rectangular moulds of white sugar are prepared on iron sheets. The slabs of sugar formed by the mould are dried and then sawn into small cubes by machinery. There is no need to touch the sugar at any stage. The natives of South Africa are employed on work that does not require much intelligence.



A. W. CULPIN

HOW LITTLE EGYPTIAN BOYS SATISFY THEIR SWEET TOOTH

These little boys do not wait for the sugar to be made for them—they like it as it is, fresh from the sugar cane. They have found that one ripe cane, brightly coloured as any sweetmeat—yellow, green, purple, or striped, as a sugar-stick should be—holds enough sweetness between its joints to make five little people happy.

canes thus brought low are carried off to the mills in mule carts, or, in certain more fortunate places, by light railways. The women, who work in the cane-fields here as well as the men, busy themselves in collecting the cut pieces into bundles.

With the coloured labourer the sugar-cane in the West Indies takes the place of the workman's familiar dinner-can in this country. The negroes eat it freely, and the children delight to chew small pieces between their teeth. It has been noticed that there is a great difference in the coloured population of the islands during crop-time. Everybody looks sleeker and is in better health generally, which shows how good a food sugar is.

Something must now be said about the two processes of sugar-making. By the "Muscovado" method the greenish juice, which comes from the mill after the canes have been crushed by the rollers, is heated to a certain temperature and passed into a tank to be purified, usually by means of lime. In the next stage it flows into copper tanks, where the water in the juice is driven off by evaporation. For this purpose a fire is kindled beneath the tanks and kept alight with the pieces of

crushed cane, which come in useful, when dried, as an economical fuel.

In due course the liquid becomes thick enough and is then ladled out into large square boxes called "coolers," where the sugar-crystals are allowed to form. Having reached an almost solid state, the sugar is dug out of the coolers and put into hogsheads, where it is left for a few weeks. These hogsheads have holes through the bottom, so that the part of the mixture which will not crystallise—the "molasses"—may drain away into a great tank. This is practically the final stage, and the sugar is now ready to be boxed up and carted off for shipment.

Under the "Vacuum" treatment the canes are subjected to a much more severe crushing by a succession of rollers; in some cases there are as many as three sets, making an eleven, fourteen or eighteen roller mill. This ensures that every possible drop of juice will be extracted. While the canes are fed to the rollers by an endless belt, the "megass," or crushed cane is borne away by another carrier direct to feed the furnaces.

The cleansing and evaporation go on in much the same way as has been

LANDS OF THE SUGAR-CANE

described. But what gives its name to this process is the "vacuum pan," a large, closed vessel from which the air is extracted. Now, it is known that liquids will boil at a low temperature in a vacuum; so that in this vessel the water may be driven off, and the sugar crystals formed, without subjecting the sugar to too much heat, which is apt to spoil it.

A little glass window in the side of the pan enables a man to watch this going on, and here again science has come to the manufacturer's help. The strength of sugar solutions may be tested by passing a beam of light through them, and so this latest device does away with the use of the proof-stick which used to be thrust into the liquid and withdrawn with a sample for inspection.

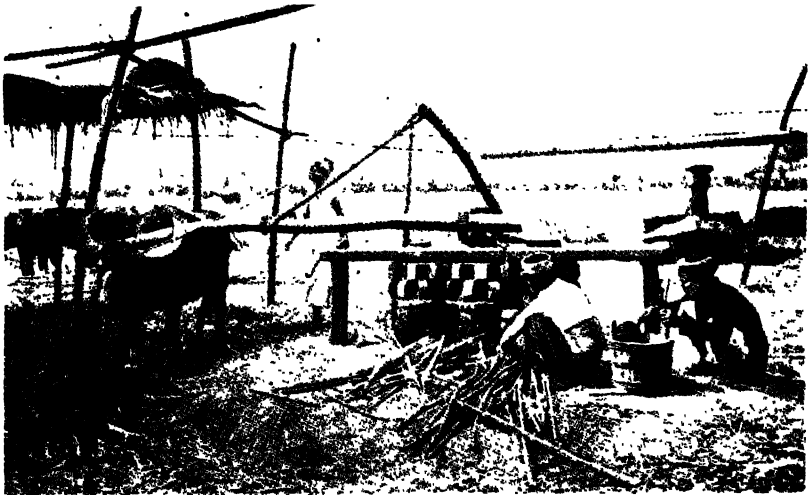
By this time the mixture should have become fairly thick, so it is ready to be transferred to large-sized drums with

perforated sides, and these are revolved by machinery at a high speed. The result of this treatment is that the sugar crystals are left behind in the drums and the molasses syrup driven off. All that remains to be done is to grade the sugar for packing into bags. It is according to its quality in this final stage that the sugar takes the form of grey crystals suitable for refining, or of the yellow crystallised sugar which we know as Demerara.

But the loaf, or cube, variety is known even better than brown sugar. This is made by pouring the "massecuite," the mixture of crystals and syrup, into moulds, after which it is washed and otherwise treated. Barley sugar and caramel, both so prized as sweetmeats, are produced by using greater heat. And as nothing is wasted in sugar-making, the molasses which we have seen drained off are boiled up again and made into those

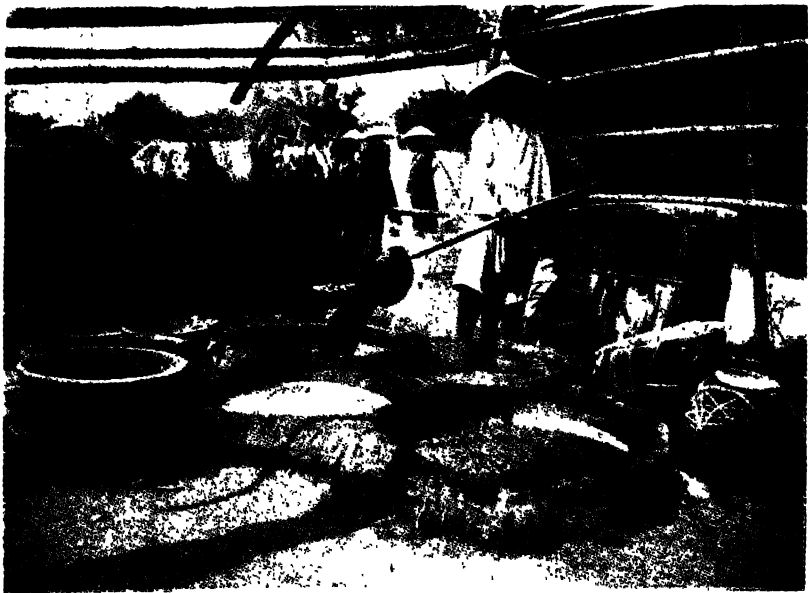


COOLIES REAPING A HARVEST OF CANES IN TROPICAL ANNAM
Annam, with its tropical sun and heavy rains, is just suited for growing sugar-canes, which need both heat and wet. In cooler places the roots must be replaced every three or four years, or perhaps every year, but in Annam the same root will send out new shoots, or ratoons, for ten years. The first crop yields the most sugar.



BUFFALO WORKING A WOODEN CRUSHING-MILL IN ANNAM

Although the modern sugar-cane mills are usually driven by steam, the people of Annam still use buffaloes to work the small mills in which they crush the cane. The man squatting down before the mill pushes in the sugar stem bit by bit. As the juice is squeezed out it drops down into the buckets which are replaced when full.



Agence Economique de l'Indo-Chine

SIMPLE METHOD OF REMOVING DIRT FROM THE CANE JUICE

When the juice is brought from the mills it is a dark, greenish-yellow liquid and contains dirt and pieces of the cane fibre. It is ladled out into large pans and mixed with lime or other purifying materials. The contents are then heated nearly to boiling-point, and the impurities fall to the bottom of the pan, so that the syrup can be taken from the top.



SYRUP BEING POURED INTO COOLING POTS TO CRYSTALLISE

As soon as crystals of sugar begin to form on the surface of the juice in the purifying pans, the syrup is poured into coolers. When the syrup has been left for two or three days it turns into a mass of sugar crystals and molasses. The molasses are drained away, leaving the moist sugar. This Annamese way of making sugar is very wasteful.



DRYING THE MOULDS OF MOIST SUGAR IN THE SUNSHINE
 sugar refineries have many ways of drying the sugar and of freeing it from molasses, but the Annamese are not so particular about the appearance or taste of their sugar. They put the large, damp lumps upon a table and leave them to dry in the intense heat of the sun. The presence of molasses makes the sugar dark in colour

LANDS OF THE SUGAR-CANE

sticky delicacies, treacle and golden syrup, or into inferior grades of sugar for rum and for cattle foods.

While the West Indies have been famous in the past for their sugar crops, they have not been the only countries to grow the cane. It has been planted successfully in South Africa, Egypt, Australia and Java. If we go into a Natal sugar refinery we shall see black boys at work handling the machinery. In one of our pictures (page 283) a coloured "hand" is seen carefully superintending the cutting

in the country which is very good when eaten raw, and it has been grown in Egypt since its introduction there in the far-off days of the Caliphs, at the beginning of the Middle Ages.

Within our Dominions there is a kind of sugar that has attained a wide popularity and that deserves special mention here, although it has nothing to do with the sugar-cane; this is maple sugar. The maple sugar harvest begins in the early spring. The first course is to tap the trees; that is, to drive a wooden or iron spout



EGYPTIAN CHILDREN BUYING A FAVOURITE SUGARY SWEETMEAT

Much of the sugar manufactured by the villagers in Egypt is made into toffee for the children. The sugar is mixed with butter and put into a large shallow pan, which is heated over a mud oven. A shady place under the palms is chosen for the shop and factory, but the cool toffee, which is placed on one side, is usually covered with flies.

of lump sugar as it comes to him straight from the moulds.

Large areas are given over to sugar-growing in South Africa, and the industry is one that will probably make great strides there. In Egypt, too, during recent years, much attention has been paid to the cultivation of the cane. And, just as negro children in the West Indies feast upon the sugar-cane in its raw state, so will the young Egyptian get his teeth into it with evident relish. There is one variety

into the trunk of the maple just a few feet from the ground. When, under the heat of the sun's rays, the sap rises in the tree in springtime, it flows out rapidly through the spout, to be collected in a bucket placed below.

The maple sap is then boiled until it becomes a dark syrup. The liquid itself is used like golden syrup, and is much liked, especially when eaten with the well-known waffles; but in its crystallised form maple sugar makes its best appeal.



WALAPAI WOMEN, like so many of the Indians, usually wear an ordinary blouse and skirt, but occasionally one of these brilliantly coloured blankets may be seen. Unfortunately they are becoming rarer as the years go by, because it takes a long time to make them on the simple Indian looms, and it is so much easier for the Indians to buy clothes from the traders. The Walapais live in Arizona, and are included in the Yuman family, which consists of several tribes living in the south-western portion of the United States.

Among the Pueblo Indians

ROVING TRIBES THAT LEARNT TO LIVE IN VILLAGES

When we think of the many tribes of Indians living in the United States of America, we are apt to imagine them as living in skin tents or wigwams of bark and wood. But in the south-western states there are tribes who have built houses and dwell in villages for hundreds of years. These Pueblo Indians, as they are called, first formed themselves into village communities as a protection against fiercer and less civilized tribes, since they themselves were a peaceful people, tilling the soil, making beautiful pottery and weaving fine blankets, which they still do at the present day.

THE United States Government rules over many tribes of Indians, who, however, are not one race but differ from one another in language, dress and customs almost as much as the nations of Europe.

In a preceding chapter we deal with the Red Indians of the north, and here we turn to the Pueblo Indians of the south-west, who are, perhaps, stranger and more interesting than any of the others. These Indians are found in the Far West, in the states of New Mexico and Arizona, and they take their name from the great houses of stone, or sun-dried bricks of clay called adobe, in which hundreds of them live together.

Very remarkable buildings are these "pueblos," as the early Spanish discoverers named them (the word itself means "a town"); they are community-dwellings, in fact, and two or three such houses will constitute a settlement. At Taos, in the extreme north of New Mexico, for instance, there are but two of them, but they are six stories high and each contains some three hundred rooms.

Private Flats in a Pyramid

A "pueblo" house is constructed somewhat in the shape of a pyramid, sloping to the top from the four sides. It is built of stone, as a rule, and is plastered inside and out with adobe clay, thus forming a substantial and smooth wall. When, as is the custom, it is further given a coat of whitewash, its appearance in the glare of the sun is dazzling. For the rafters, pine trunks, stripped bare, are generally used, and above these is fixed the roof of straw and clay, a covering that is

perfectly water-tight. In a "pueblo," with its large population, each family has its own apartments, but many things have to be shared in common. This is the case with the big outdoor bake-ovens, in a picture of which we see women preparing bread.

Why the Indians Left the Caves

The doors and windows of the buildings, as can be seen, are always small, this being a survival of the days when raid from enemies were constantly to be feared. It was, indeed, the consideration of these defensive possibilities that led the Indians to build these great houses.

What is especially remarkable about the "pueblos" of the past is that they were built with the simplest tools. The Indians of this western region were not familiar with iron and steel; they used nothing but stone axes and other simple tools in their work. In the earliest known days of their existence these tribes of New Mexico and Arizona, and some in Colorado, were cave-dwellers. The reason for this is obvious, the soft sandstone of the country made it easier for them to dig a home than to build one, while natural caves were numerous, of which they made full use. Later on they became cliff-dwellers, for in the immense terraced cañons, or gorges, the cliffs provided them with wide shelves whereon they were able to build their homes.

What such a cañon looks like we see from the illustration of the Grand Cañon of the Colorado. This is the greatest and grandest gorge in the world. It lies mainly in Arizona, but it reaches as far as Utah, Nevada and California.

AMONG THE PUEBLO INDIANS

with a length, in all its windings, of close on seven hundred miles. At its greatest depth it is over a mile and a quarter from the summit of the cliffs to the Colorado River below. In width it ranges from eight to twelve miles.

In less imposing cañons, though still grand, the ancient Pueblo Indians have left traces of the cliff-dwellings throughout this desert territory, and their marvellous structures rank among the world's wonders. In one great gorge, which is twenty miles long and six hundred feet deep in places, are to be seen the ruins of about a thousand of these cliff houses, some of them being still in a good state of preservation.

That the present-day descendants of these old-time masons have improved upon the methods of their forefathers is shown in the building of their modern dwellings. In appearance, and in habits and customs, however, the Pueblo Indians themselves have not altered much. They are still a simple people, keeping strictly to their tribal traditions and rites, and but little influenced by years of contact with their white neighbours.

One notable feature about them is their peaceable, law-abiding nature and their industry. By profession they are farmers and agriculturists, depending chiefly upon maize for their food, but they breed sheep, goats and a few cattle.

As they have become skilled in such handicrafts as pottery, basket-making and



Swing Lohr

PUEBLO BRAVE IN HIS BRIGHT BLANKET

Though they are often called "Navaho" blankets, many of them are made by the Zuni and Hopi Indians. The Indians are very proud of their coloured blankets, as can be seen from the bearing of this brave.

rug-weaving, they have always managed to support themselves.

In the portrait of a Pueblo chief we see an Indian full-dress costume. The striking, coloured blanket is a prominent feature of this, as also the elaborate head-dress with its eagle feathers and



GRAND CAÑON country is like no other in the world, and extends for a distance of 217 miles along the course of the Colorado River in Arizona. The river flows through a tremendous chasm, which in places is 6,000 feet deep and twelve miles wide. From the top of the cliffs the great river looks like a narrow strip of silver ribbon.



SNAKE DANCER of the Hopi tribe painted and dressed ready to take his part in the elaborate ceremony. In his right hand is a gourd, filled with dried beans or small stones, which is used as a rattle, and around his neck and wrists are the silver ornaments worn only when these solemn religious dances are to be performed.



ALFRED STURGEON

HOPI INDIANS AND THEIR MEDICINE MAN PERFORMING THE SNAKE DANCE IN ARIZONA

On the left is the medicine man, or witch doctor, who leads the performers of this old dance. it was held in the same place and acted in the same manner when the Spaniards first came to this part of America in the middle of the sixteenth century. The dance is not a pleasant one to watch, as live reptiles, such as rattlesnakes, are held in the hands or mouths of the dancers, who never seem to get bitten. The snakes are placed on a sacred rock, and cornmeal is sprinkled over them while the dancers sing weird chants. The snakes then go free



Denver & Rio Grande Railway

FESTIVAL OF SAN GERONIMO IN PUEBLO DE TAOS, NEW MEXICO

Pueblo, Apache, and Navaho Indians all come to Taos for the great festival which is held on September 30th. Processions of Indian men and women march through the town, and clowns, with painted faces, dance for the amusement of the crowds. Relay races are a great attraction, and the start of one between teams of Indians is shown in the photo

other decorations. For ordinary wear, a Pueblo dress comprises a blanket or rabbit-skin robe, a shirt with sleeves, short breeches which are partly open at the sides, leggings reaching to the knees, and moccasins. In place of the feathered head-dress a simple headband is worn. A Pueblo woman carries a similar coloured blanket upon her shoulders, with often a small calico shawl over this.

The Apaches of Arizona and the Navahos are other Indians of the western country, who come of different stock and belong to the Athapascan family, which contains many tribes. Some of these live in Alaska and Canada, but all speak the same language. They are plains Indians, and the Apaches keep

to their original dress of buffalo robe, shirt, breech-cloth, leggings and moccasins. On the other hand, the Navahos, since their wanderings into the Far West, have adopted the Pueblo style of attire. Among the Apaches of New Mexico, however, a tribe that has earned a name in the past for ruthless ferocity in war, taste in dress is carried to a high artistic degree. Their robes are many-coloured and beautifully ornamented, the breeches tastefully patterned, and their long black hair is braided or taped.

The Navahos, whom we have just mentioned, are an important tribe, if only because of their preeminence in blanket-making. At one time the very name of these Indians was one of dread to



THIS PUEBLO CHIEF is looking at a stick which was presented to a former leader of his tribe by President Lincoln for the help he gave during the American Civil War. Now the Indians no longer go out upon the war-path, but the old chief can still tell the young men stirring tales of the wild days when he was young.



Ewing Galloway

HOPi HUNTERS of northern Arizona at one time roamed all over the mountains and followed the buffalo on the plains to the east, but now only a few, like this stern-faced man, seek out the deer, antelope and puma. This hunter still wears the skin tunic of his forefathers, but a red bandana handkerchief has taken the place of the ancient head-band.



Denver & Rio Grande Railway

INDIANS TRYING TO CLIMB THE GREASY POLE AT TAOS

Though this festival is known as San Geronimo Day, and is held in honour of the Christian saint S. Jerome, even the old men among the Indians cannot remember how it first began, and it is really a thanksgiving to the sun-god for the harvest. Climbing the greasy pole is a very popular event, as among the prizes at the top is a sheep.



STRANGE HEAD-DRESSES AND MASKS OF THE RAIN-DANCES

Underwood

When rain is badly needed the Indians of Arizona believe that the only way to get it is by performing the rain dance. They move along in twos, one man of each pair wearing an elaborate head-dress of feathers and leaves as well as a mask. Special songs are sung at the dances, which may be kept up for several days.



YUMAN BABIES have light cradles which their mothers can pick up and rock upon their knees. The shade, made of platted grass, is to protect the eyes when the babies are put into the open, as the sun is very hot in Arizona and New Mexico. The papoose is tied securely to the cradle by strips of cloth, so that mother need not be watching all the time.



INDIAN BASKETS are beautifully made and coloured with the dyes that the Indian
OF NEW



Ewing Galloway

VILLAGE OF THE PUEBLO INDIANS IN NEW MEXICO

The pueblos, or villages, are not built according to any regular plan and additions are made when necessary. As a result of this the village is like one big building with hundreds of rooms, and the roofs of the lower houses form platforms in front of those above, which are entered by ladders. About 200 families live in this village.

the Pueblos and to white settlers alike. The Navahos, with the Apaches, were the flying robbers of the plains.

A Navaho blanket, woven on a real Navaho loom, is an article to be prized. Before more easily manufactured blankets from the East could be bought by the Indians, men and women of other tribes spared no pains to secure one of these beautifully made products of the native weaver. That a Navaho is able to turn out such a well-made article from his simply-made loom is really wonderful.

The loom itself is composed of a framework of rough pieces of wood, held together by ropes and connected by the

cords which form the foundation of the article. With this simple apparatus, however, the Navaho weaves blankets of brilliant colours and striking designs, and so close is the texture that they are admittedly the most durable in the world. They will hold water, and as carpets will stand the test of many years' hard wear.

A characteristic of the Navaho is his love for feathers, although in this he is equalled by the Pueblo Indian.

In this connection it is interesting to note the curious device of the "prayer-stick" which is found most commonly among the Pueblo people of Zuni, in Arizona. A feather plays the chief part in this



CHILDREN OF THE NAVAHO TRIBE PLAYING CAT'S CRADLE

Before the coming of the white men Indian boys played at hunting and fighting, but now they are taught the games of other children. Base-ball, which takes the place of cricket in America, is a great favourite with the older boys. Cat's cradle seems to be played all over the world, even in places so far apart as Africa and New Guinea.



American Museum of Natural History

THIS APACHE INDIAN looks peaceful enough in his best clothes, but for many years his fierce tribe was the worst enemy of the settlers in Arizona and New Mexico. Cattle stealing and war were favourite amusements, and they gave the government more trouble than any of the other Indians. The Zulus call them the Apachu, a word meaning "enemy."



NAVAHO WOMEN weave the most beautiful blankets on their looms, which they have to construct themselves. One blanket takes a very long time to make, but the Indians seem to possess a great deal of patience, or perhaps they have nothing else to do. Most of the blankets are sold to traders or to visitors to the reservations on which they live.

AMONG THE PUEBLO INDIANS

In various places round the "pueblo" town many hundreds of little sticks, each with a tuft of feathers bound to its top, are to be seen stuck into the ground. Such sticks represent the Indians' prayers to their gods, and the nature of the prayer is indicated by the kind of stick, the colour of the feather, and even the mode of its fastening. It is strange to read of this heather device among American Indians, when one recalls the well-known "prayer-wheels" of the Tibetans and the Burmese, and the paper prayers of China and Tibet.

Killing a Bear Politely

As every Indian tribe has its peculiar superstitions in regard to animals and other creatures so the Navaho regards the bear with the greatest reverence. Bruin is not only, to him, the greatest and most powerful of beasts, he is also the wisest. No Navaho will kill a bear, or even meddle with one, unless he has had strong provocation. When a bear has killed a member of the tribe and the decree for vengeance has been pronounced, the guilty animal is not put to death before a certain ceremonial has been gone through. The bear has his praises sung, and his pardon is humbly invoked for those who are sent out to kill him. Then all apologies having been made, he is slain, and the execution party returns home triumphant.

An extraordinary characteristic of the Navaho Indian is his dislike of snakes. He will not touch one in any circumstances, and no emblem of the reptile, in any form, is allowed to be shown. Very different is the case with the Hopi, or Moqui, Indian, who lives on the edge of the Arizona desert in strange and little-known "pueblo" cities. The Hopi houses are built high up on the "mesas," or tablelands of lofty rocks, which rise sheer from the plain.

Snakes are Sacred to the Hopis

These Hopi Indians are among the most remote of American native tribes, and they have retained more of their old beliefs and customs than most of their red brethren. They, too, are famous for

their weaving, the Moqui "mantas" (black woollen dresses for women), and their dancing-girdles, being much sought after. Very valuable also are their home-made blankets of rabbit fur.

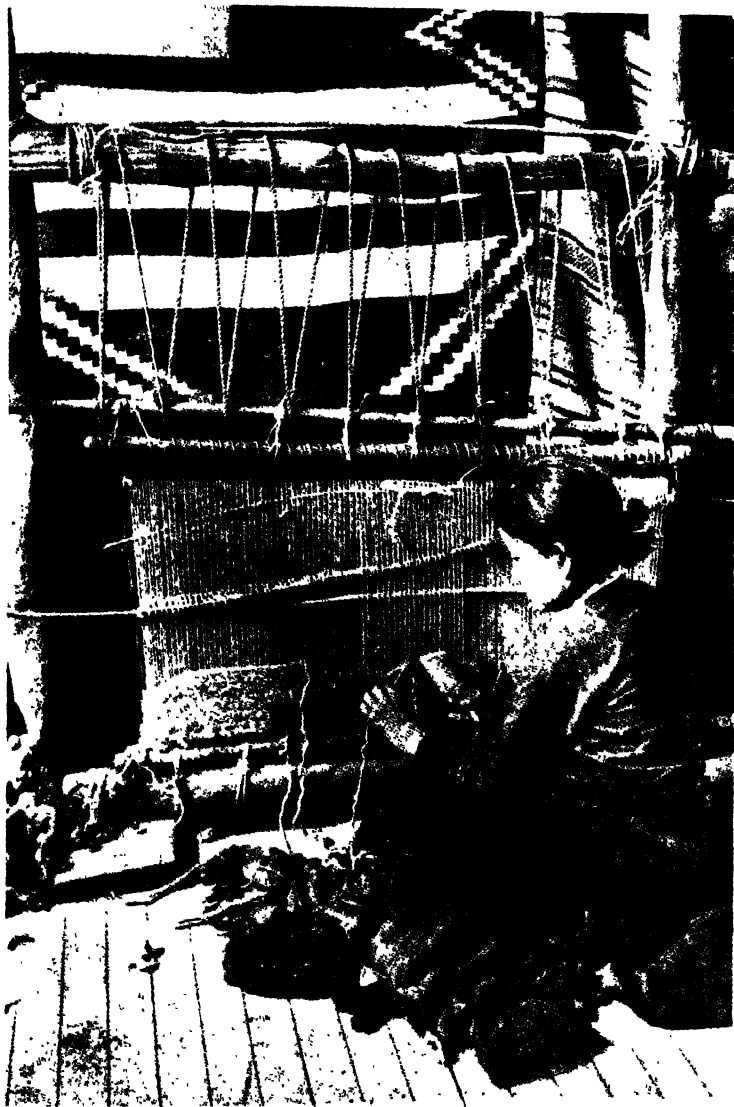
With the Hopis of the "pueblo" country, while all snakes are treated with respect, the rattlesnake is regarded as actually sacred.

Every second year, in the month of August, the great ceremony of a snake-dance is performed. The origin of this festival is the Indian idea that a serpent, tail in mouth, is the symbol of the round, full sun of the summer month. Special "snake-men" among the tribe procure a number of rattlesnakes, and these, after peculiar rites, are taken to an open court between the houses and the cliff. When the assembly of the Hopis is complete a procession of performers, known as the Antelope Men, makes its appearance. As this is a religious function of the most solemn nature much ceremonial has to be gone through before the next stage of the proceedings, when the priests of the Snake Order file into the court.

Dancing with Rattlesnakes

A special dance is performed by them, but the Snake Dance proper may be said to begin when the members of both orders join together, and each Snake Man, with a squirming rattler between his teeth, sets off in the dance with an Antelope Man as his partner. The dance progresses to the sacred Dance Rock and circles back again. This performance is repeated until all the snakes have been taken out of the bags in which they were kept. It is not always fun for the spectators, for scores of the rattlesnakes try to escape among the throng and have to be recaptured. The dancers are very rarely bitten, and they have never been known to die from a bite. They handle the snakes so fearlessly because they know just how to hold them without danger.

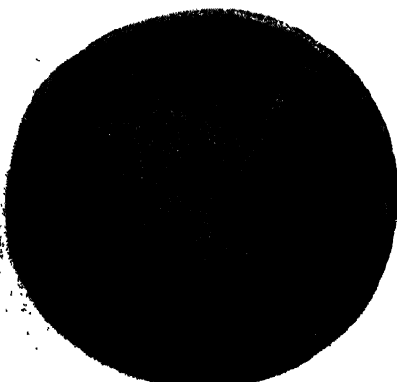
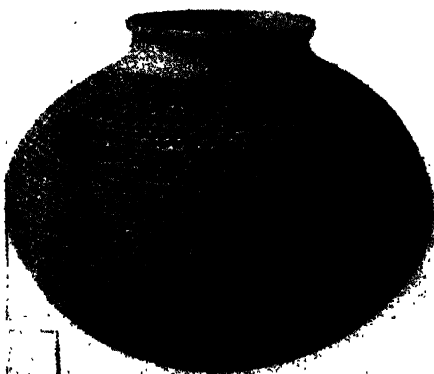
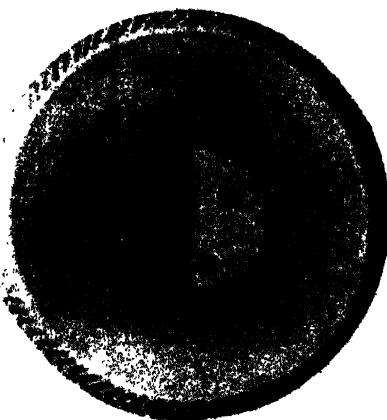
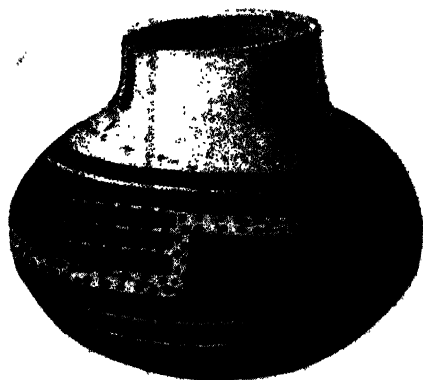
The principal performers themselves are painted on face and body for this function, and they wear curious dancing skirts, which are decorated with fox-skins



Ewing Galloway

LITTLE INDIAN GIRL BUSY WEAVING A MAT ON HER LOOM

Indian children have to help their parents at a very early age, but they do not take long to learn weaving, as it has been carried on for hundreds of years. The American government has established many training schools among the Indians to teach them modern methods, but they will not give up the quaint looms which have served them so well



PUEBLO POTTERY was manufactured centuries ago, and the work, made by hand, was almost perfect, as can be seen in these illustrations. The Pueblo Indians first used basket-ware utensils, but when they became skilled potters these were replaced by earthenware articles; some, like the bowl in the left-hand bottom corner, being copies of basket ware.

American Museum



POTTERY MAKING is one of the oldest industries among the Pueblo Indians, and their skill is unequalled by that of any tribe living within the United States. They make every form of utensil for their homes, such as cooking vessels, ladles, bowls, platters and candlesticks. The women are usually the potters, though some Hopi men are clever craftsmen.



WOMEN BAKING BREAD IN THE PUEBLO OF LAGUNA, NEW MEXICO

In the villages of the Pueblo Indians some of the cooking, such as baking, is nearly always done outside the houses. The ovens are made of adobe, or unburnt bricks, plastered with mud, and are shared by the families of the village. The corn from which the flour for the bread is prepared is ground by the women and girls in stone mills.

dangling behind. On their legs they carry rattles and sacred twigs, the former sounding weirdly as the dancers swing to and fro. The end of this strange dance is the sprinkling of sacred cornmeal upon the reptiles, which are then seized in handfuls and carried swiftly by the dancers to the plain, several hundreds of feet below, where they are set free.

The dances of the Pueblo Indians are many. There is, for instance, the "Rain Dance," in which the participants wear grotesque masks. In times of drought this dance is performed in the hope that it will bring down the much-needed rain.

No mention of the Pueblos would be complete without reference being made to the art of pottery-making in which they excel. It has been pointed out that it was not by chance that this industry has become so highly developed among the Indians of this region. Theirs is a land in

which the water supply is not plentiful; clay receptacles, therefore, had to be made in which this necessary commodity could be stored. The Pueblo potter works by hand, using no wheel as do his more civilized brethren, but he succeeds in producing ware that is of a highly artistic nature. In addition to making well-turned pots and cups and similar articles, he adorns them with striking and original designs, mostly of a geometric pattern.

Besides pottery, the artistic talent of the Indians is displayed in weaving, as we have already noted, and in basket-making, bead and feather work. Research has shown that the old cliff-dwellers and mound-builders who lived and flourished centuries ago possessed no little skill in this direction. Metal and clay work that has been discovered in the ruins of their ancient "pueblo" cities clearly reveal their artistic taste and ingenuity.

Old Peoples of a New Nation

AT HOME WITH CZECH, SLOVAK, MORAVIAN & RUTHENE

The Great War, which altered the map of Europe, though it brought little but sorrow and suffering to the peoples of Europe and Asia, made a great change in the life of the nation we now call Czechoslovakia—a name that is to be found on no map before the War. A group of races long down-trodden by Austria-Hungary now forms the independent and thriving Republic of Czechoslovakia. Check-o-slo-vak-eeah, as we say it, is rather a long and ugly word for a small and beautiful country. But it is important for us to learn something of the history of this new and friendly nation and its lands, of which the most famous is that known for ages as Bohemia.

THE Republic of Czechoslovakia is a beautiful country of central Europe, about six hundred miles in length, and in some places about two hundred miles in breadth. The four provinces of Bohemia, Moravia, Slovakia and Ruthenia are the chief divisions of the land, which is confined on the north by an almost continuous chain of mountains stretching from the Ore Mountains, between Bohemia and Germany, to the Carpathians, dividing Slovakia and Ruthenia from Poland. The southern boundaries of Moravia, Slovakia and Ruthenia are for the most part formed by the Morava, Danube and Jpel rivers.

Nowhere throughout the Republic is it very wet or very dry, and the rain falls mainly in the summer; this enables agriculture to be carried on in all parts of the country. Czechoslovakia is rich in minerals, platinum being the only useful metal which it does not possess.

The ancient province of Bohemia is

sheltered on three sides by mountain ranges, the Ore Mountains on the north-west and the Giant Mountains on the north-east being the most important. For this reason the climate is less severe than in other parts of central Europe. Forests cover the higher portions of the

rolling uplands, which slope down to wide green valleys with meadows and orchards. In the spring-time the valley of the Labe, which river is called the Elbe in its course through Germany, is a mass of blossom, apple, pear, plum and cherry trees taking the place of fences between fields and growing in orderly rows along the road. Throughout the valleys, and in the green pastures which lie close to the pine forests, are scattered the farms of the Czechs. Many of the river beds are marshy and are used as grazing grounds for flocks of geese, which are tended by the children.



RIBBON HEAD-DRESS OF A BRIDE

A bride in Slovakia does not wear only white but crowds as many colours as she can on to her wedding-dress. Her head-dress is composed of several layers of ribbons.

Hidden away in the forests are lonely little settlements, where the people are



HOLIDAY CLOTHES must be brightly coloured and embroidered in Czechoslovakia. The skirts are short to show the high leather boots worn by mother and daughter alike. The child's flowered muslin looks very simple beside her mother's finery, but perhaps she has not put on her best frock. Corncobs gathered on working days hang from the eaves.



PAINTED BANNERS are borne high in the air by these six Slovak men who head the procession which, to celebrate the name day of its patron saint, winds through the streets of a small village in Czechoslovakia. The men wear their gala clothes—sleeveless jackets with many buttons, full-sleeved white shirts and white embroidered trousers.



A. W. Cutler

GRANNY AND MOTHER WATCH THE CRADLED BABY SLEEPING IN THE SUN

Though the wide-open door welcomes the warm summer air, and baby's wooden cradle has been carried outside that he may have all the life-giving sun he can get, the double windows of this peasant's cottage guard against coldness to come. For in Slovakia and Ruthenia the weather, hot in summer, is icy cold in winter.

almost completely cut off from the outside world. They have resisted the attractions of cities such as Plzen and Prague, the capital of Czechoslovakia, which have taken so many people from the land to work in the great factories.

Bohemia is the richest in minerals of all the provinces, having coal, silver and iron mines, and has become the most important industrial region in the Republic. Unfortunately many of the industries which were carried on in the homes of the peasants are fast disappearing owing to the fact that several of the products are

now supplied by factories. The women no longer spend the winter evenings in spinning and weaving the materials for their dresses, though the old costumes are still worn on feast days.

Bohemian glass has been famous for many centuries. The glass was made first of all in the sandy districts on the north-western border, but the first factories were built in the forests, as wood was wanted for fuel to heat the ovens. Later, factories were moved to where coal could be obtained, because that is now the only fuel used. It is well worth going

OLD PEOPLES OF A NEW NATION

into one of the factories in the Jablonec district. There we can see the great skill of the glass-blowers, and watch the care with which the glass is coloured, producing lovely shades of green, blue and purple. In some of the factories various secrets of the trade have been handed down from father to son, so that nobody can imitate the work.

Moravia is the central portion of Czechoslovakia and, although a quarter of it is covered with forests of oak and pine, it is one of the busiest manufacturing districts in the country. The northern

portion contains factories for the production of cotton and woollen goods, and iron and engineering works are found everywhere. In Bohemia the villages are more like those of Switzerland, but here they have the appearance of little towns, with electric light in all the houses. The Morava River, which cuts the province in two, and its tributaries from the mountains on the borders provide plenty of water for the farms, on which wheat, flax, vegetables and fruit are grown. Brno is the capital of Moravia, and is a busy town surrounded by hills



EVEN AN ORCHESTRA OF TWO NEEDS A CONDUCTOR

The people of Czechoslovakia are great music lovers, and it is astonishing what melodies they can produce on curious home-made instruments such as these. There are many different types of national dress. The peasants of Detva in Slovakia wear great trousers, an embroidered shirt, a coat hanging from the shoulder and a little round hat.



SHEEPSKIN JACKETS, worn woolly side in and with the outside gaily ornamented, are the outdoor wear of both men and women among the Carpathians. This Ruthenian peasant, with his leather satchel and ribboned hat, is ready to go to market, leaving his daughter, whose bare feet are an odd contrast to his cloth-bound ones, at home.

Florence Farmborough



WOMEN OF RUTHENIA put on their best sheepskin coats and tie their gayest handkerchiefs around their heads when they carry their home-grown goods to market. Market day is always a good gossip day, and many such groups of peasants may then be seen chatting by the roadside, with their wares, chiefly onions, on the ground before them.

Florence Tarnabowski



THE CZECHOSLOVAK GIRL LOVES BRIGHT COLOURS, AND CAN DO MARVELS WITH A NEEDLE AND THREAD
 As this picture shows, the national dress of Czechoslovakia can be a frill. Of all other details—trimming, shape of bodice, collar, material varied in many ways without losing any of its delightful individuality, and even cap—there are as many different kinds as there are dresses shown. The colours vary as much as the styles, though all are bright, and are made still brighter by the wonderful embroidery.



MNA

EVEN THE RIBBONS OF HER CAP ARE COVERED IN EMBROIDERY

When one sees such dresses as this it is easy to understand why the women of Czechoslovakia love their national finery. The sleeves are white and probably the neckerchief and cap as well, but the dress itself is brilliantly coloured, chiefly in red or a bright, deep blue. The embroidery, too, is in every colour, plenty of gold thread is sure to be used.



GOLD, RED AND BLUE are colours always found in the holiday clothes of a Czech peasant, and part of her dress is likely to be spotlessly white. She does not wear fine silks and satins, but works on the very commonest of materials with a needle and gold thread until she has a dress so rich that any girl might envy her.

OLD PEOPLES OF A NEW NATION

and forests, and having a population of 100,000, of whom about one-third are of German nationality.

Slovakia occupies the eastern portion of the republic, which is formed by the mountains and valleys of the Carpathians. The province is wilder than Bohemia and Moravia, and includes the region known as the High Tatra, where there are mountains over 8,000 feet high, their lower slopes covered with pine forests, and beautiful lakes lie hidden in mysterious valleys. Naturally Slovakia is not so well developed as other parts of the country, and the people devote themselves to cultivating their small farms or breeding sheep and cattle on the plain of the Danube called the Little Alföld.

There are salt mines near Presov, and large estates on which sugar-beet are cultivated by the owners of the sugar refineries. Slovakia and Bohemia produce all the iron of the country, but the former has not been spoilt as yet by great manufacturing towns with smoking factories.

Where Savage Animals Prowl

Ruthenia is the most easterly province of Czechoslovakia, with Hungary and Rumania as its boundaries on the south, and Poland on the north and east, but it is separated from the last country by the Carpathian Mountains. As in Slovakia, the summers are hotter and the winters more severe than in the other provinces. Forests of oaks and beeches cover large areas, and they are the haunts of bears, wolves, wild boars and the largest stags in Europe. Vines cover the sides of many of the hills, and when the grapes are ripe they are protected by armed watchmen and savage dogs.

Ruthenia is the most backward region of the republic, chiefly because so much of the land was owned by a few Austrian nobles before the Great War, which state of affairs gave the people no encouragement to work hard. One of the most productive salt mines is at Slatina, and the government is trying to develop the oilfields, as they are also doing in Moravia and Slovakia. Uzhorod is the capital of

Ruthenia, and the Czech authorities have changed it from a dirty little village to a clean town with asphalt streets and Bohemian shops.

Railways that Ran the Wrong Way

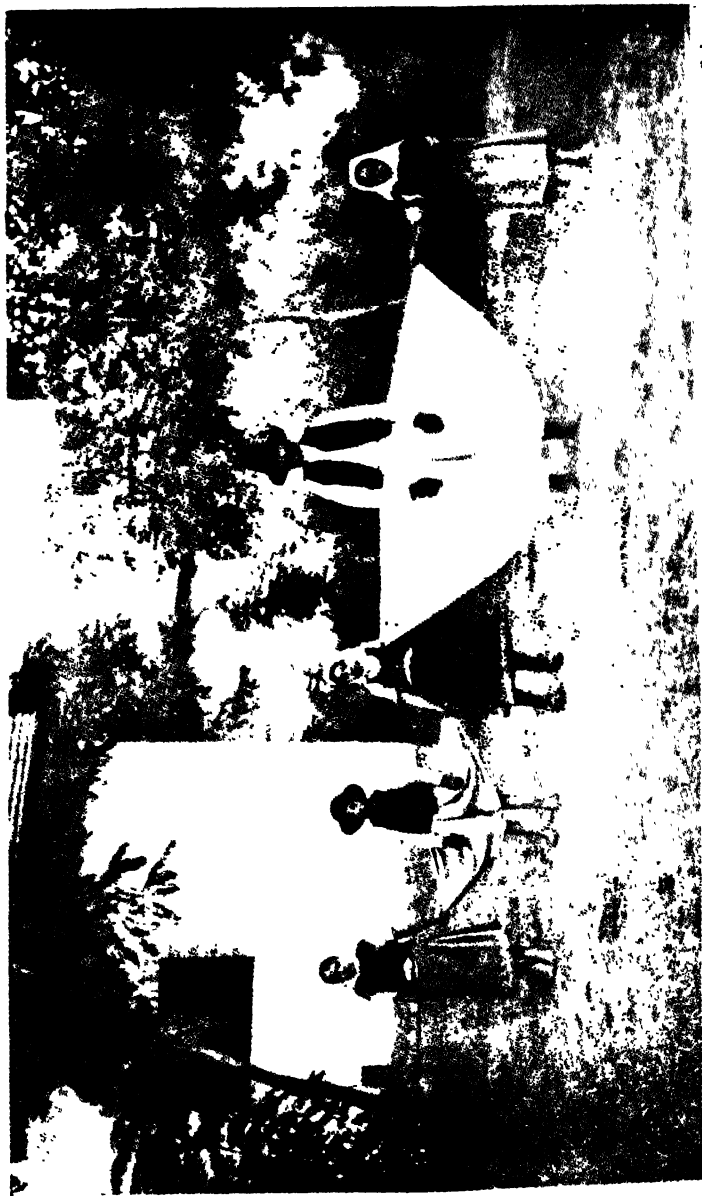
The country is handicapped by the fact that when it formed part of the Austrian Empire the railways were built to join the land up with Vienna or Budapest, instead of Prague or Brno, but this is gradually being put right by the building of new lines and by providing the main routes with double tracks. Many of the rivers are used for goods traffic; the Labe (Elbe) in Bohemia transporting cargoes of coal, sugar, timber, fruit and iron. Sweden sends large quantities of iron up the Oder. A canal is being built to join up the Labe and the Danube, which will allow boats to go from the North Sea or the Baltic Sea to the Black Sea.

Owing to the fact that the country is enclosed to a large extent by walls of mountains, the people were left alone for hundreds of years, and they remained the least known race of Central Europe. They developed their own civilization and worked and played as they pleased.

The different peoples who are the inhabitants of Czechoslovakia to-day are the Czechs (pronounced Checks), Moravians, Slovaks, Ruthenes and Teutons, the latter being Germans and Austrians.

Libusa, Prague's Prophetic Queen

The Czechs form the greater part of the population of Bohemia, but where they came from is not clearly known. They conquered Bohemia in the fifth century, and are believed to be the descendants of Slav tribes which pushed westwards from Russia. Much of the early story of the Czechs is a mixture of romantic legend and history. The first prince, according to a story which is very popular amongst the people, was named Krokus, or Krok, and had three daughters. At his death the youngest, Libusa, was chosen by the people to be their ruler. She is said to have founded Prague, and to have prophesied the future greatness of the city.



A STRANGE FASHION WHICH THE GREAT WAR ALTERED: SKIRT-LIKE TROUSERS OF THE SLOVAKS

In parts of Slovakia the peasants, men and boys, used to wear wonderful trousers like these until the Great War made them too extravagant. The trousers are so wide that they look far more like skirts, and very full skirts, too, so full that it would seem that any of these women of the family, so a poor woman with a large family of boys would have to work hard at her spinning-wheel to keep them clothed.



A. W. Cutler

THE SUNDAY BEST OF THE SLOVAK PEASANT WOMEN IS GAY INDEED
 These sturdy women, who live near the little town of Postyén, in Slovakia, wear their bright be-ribboned clothes and embroidered aprons only on Sundays, or on high days and holidays. Their tall, shiny boots, too, are not worn every day, for, unless she is rich enough to have two pairs, a Slovak woman goes barefoot about her work.



Kudo Bruner-Dvorak

OPEN-AIR DANCE TO CELEBRATE A HOLIDAY IN PRAGUE

Although Prague is a big and busy city the quaint national dress is sometimes seen even there, especially on fête days, when the peasant folk sometimes gather together to go through one of their traditional dances. When dressed up in their best the men of Bohemia, with their embroidered waistcoats and caps, are little less gay than the women.



- A SOKOL THROWING THE DISCUS LOOKS LIKE A GRECIAN STATUE

Sokol is the Czech word for falcon, but since 1862 it has come to mean something more, for in that year the great gymnastic society of the Sokol was started, and soon nearly every youth and girl of Bohemia was a member. Not only does the movement aim at physical fitness, but it teaches the young people to be good citizens.

One day she had to settle a dispute between two nobles and the one against whom she gave the decision insulted her. She called the representatives of the people together, asking them to choose a man to rule over them as they could not be governed by a woman. They insisted, however, that she should select a husband whom they would recognise as their king.

Libusa agreed, and, pointing to the distant hills, is reported to have said: "Behind those hills is a river called the Bellina and on its banks a town called Stadu. Near by is a farm, and in one of the fields of that farm is your future ruler ploughing with a yoke of spotted oxen. His name is Premysl. My horse will lead you to him. Follow him." They followed the horse to the field where there was a peasant, ploughing with two oxen marked with spots, who said his name was Premysl. They led him to Libusa, whom he married, becoming the founder of a long line of Bohemian princes and kings.

In the thirteenth century the Czechs invited Germans into their country to help them to work their mines and farms. About one hundred years later they tried to get the Germans to go away, and did manage to drive them out of the central districts, but they could not do so in the north-west, and so now the people around Karlsbad, Marienbad and Franzensbad are almost all Germans.

The Czechs are the cleanest, cleverest and most industrious of the Slav races, and, above all, very patriotic. One of the first things a visitor notices is the many different kinds of national dresses which are worn by the peasant women, even in a city like Plzen. Various shades of red seem to be the favourite colours, and the skirts stick out like crinolines.

In southern Bohemia the men wear fur-edged jackets and broad-brimmed hats, and the women have a special head-dress, which is a close-fitting white cap with huge lace bows at the side. The



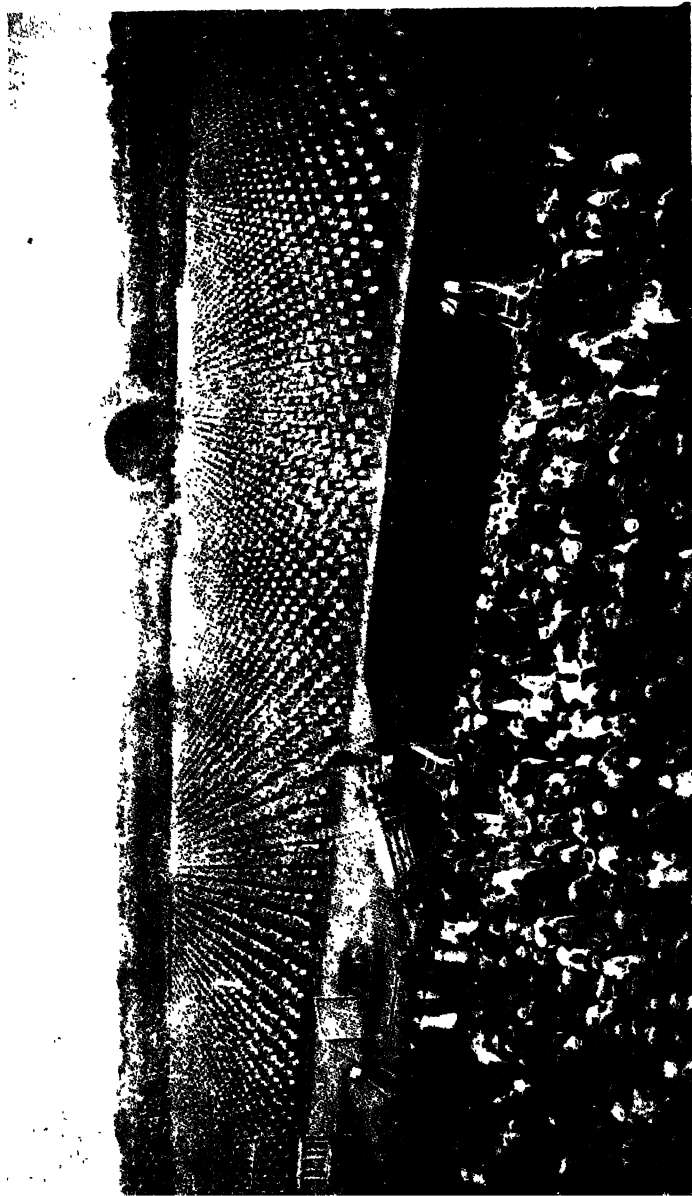
SOKOLS MARCH TO THE STADIUM THROUGH THE CITY OF PRAGUE

Every few years, notably in 1912 and in 1920, tens of thousands of Sokols gather together to hold a great display in Prague. Here a company of the men is marching through the city, bearing great banners topped by a falcon with open wings. The men wear red shirts with a fawn-coloured jacket, and in their round caps are two falcon's feathers.



WOMEN AS WELL AS MEN TAKE PART IN THE GREAT SOKOL DISPLAY

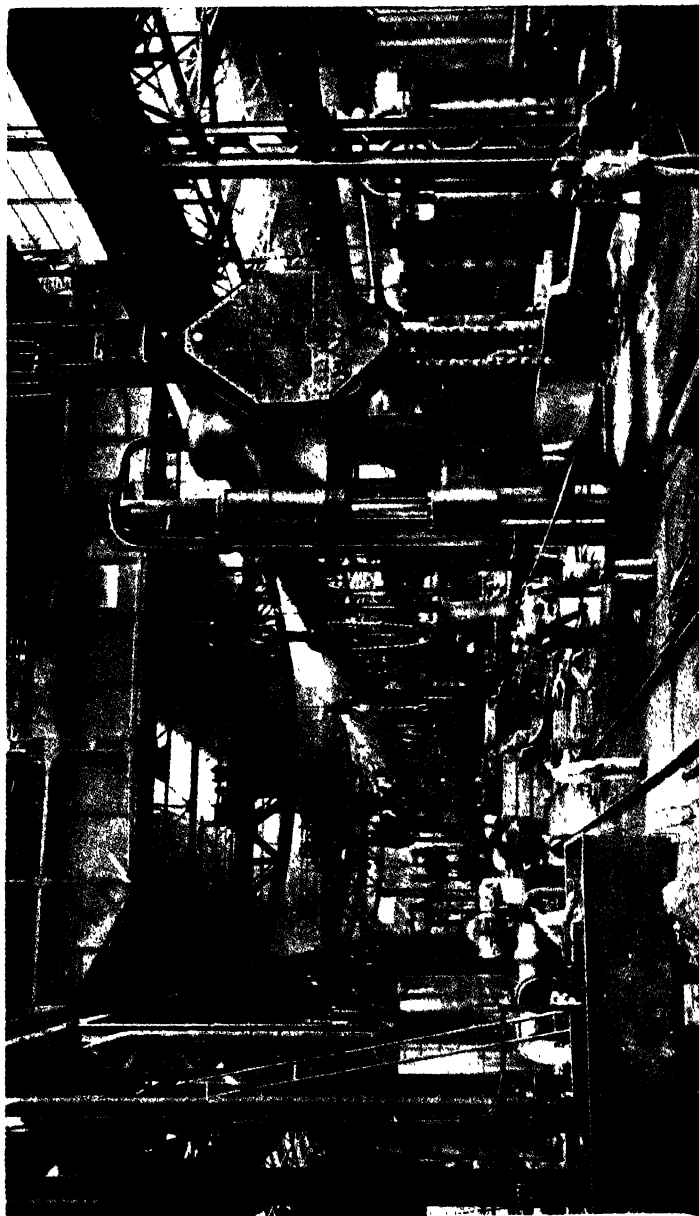
All Sokols, women and men, learn to fence and wrestle and keep themselves wonderfully fit by drilling and athletics. They look upon each other as brothers and sisters, no difference being made between rich and poor, gentlefolk and peasant. Their motto is "Let us be strong," and they strive to be as active and as fearless as the falcon.



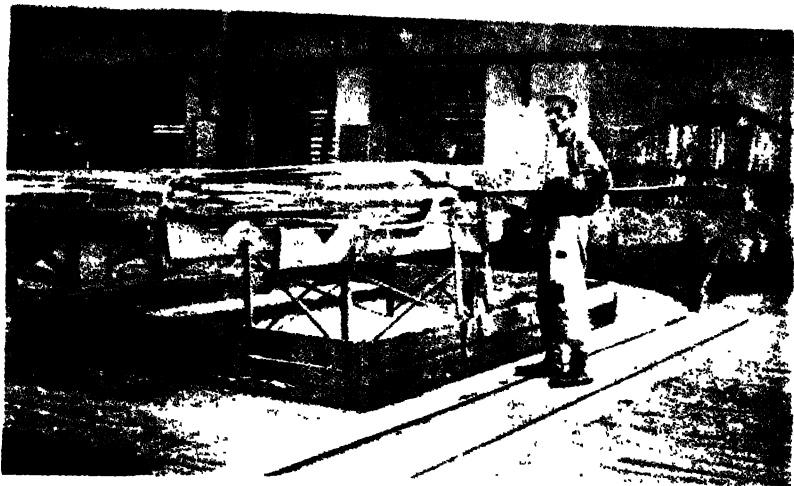
PEOPLE COME FROM ALL OVER THE WORLD TO SEE TWELVE THOUSAND SOKOLS DRILLING AT PRAGUE
The great Sokol movement, which was started in Prague more than sixty years ago, when Bohemia and the other countries that are now in the United States of America send some Sokols to the great gatherings at Prague. At the great display held in 1920 first twelve thousand men and then twelve thousand women drilled together.



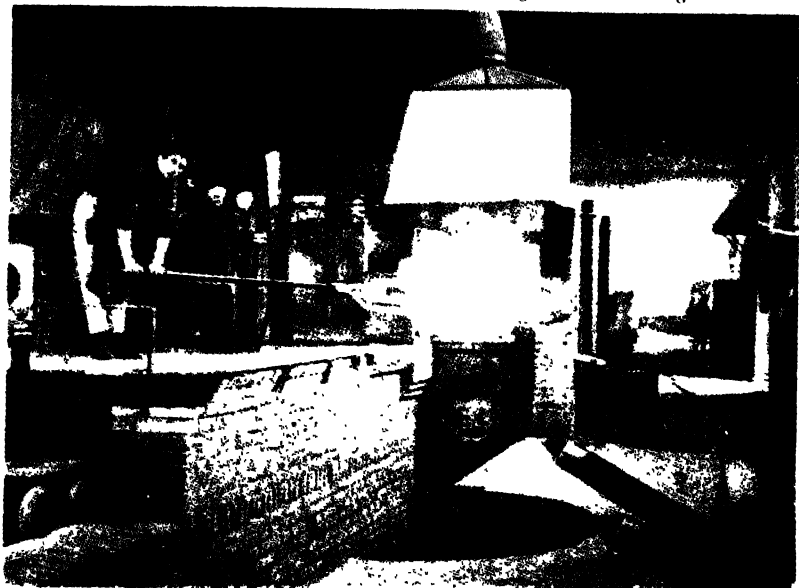
THERE ARE MANY BEAUTIFUL BRIDGES ACROSS THE VLTAVA AS IT FLOWS THROUGH GOLDEN PRAGUE
 Prague, or Praha as it is called in Czech, is a very old city, so old that there are only legends to describe its beginning. Like most ancient cities Prague is very beautiful. It stands on the slopes of seven hills on both banks of a broad river, the Vltava, and high above the houses and church spires is the great medieval palace known as Hradcany and the wonderful cathedral of S. Vitus. Here we see four of its many bridges—the Chain Foot Bridge, the New Bridge, the Charles Bridge, started in 1357, and the Francis Bridge.



WHERE BOHEMIAN STEEL IS MADE: THE HEAVY FORGING DEPARTMENT OF THE GREAT SKODA WORKS so enormously that it was the largest steel works in central Europe and one of the largest arsenals in the world. It is not as large now as it was then, but it still has departments for making railway rolling stock and bridges and for doing all kinds of engineering work.



BOHEMIANS STARTED MAKING GLASS IN THE THIRTEENTH CENTURY
 Bohemian glass is valued for its great beauty all over the world. Goblets and flacons are made in wonderful colours and graceful shapes, also imitation gems and buttons and bright coloured beads and bangles. Sheet and plate glass, bottles and tumblers are made, too. Here we can see some sheet glass in the making.



THE GLASS IN OUR WINDOWS ONCE LOOKED LIKE THIS
 A long hollow rod called a blowpipe is dipped into the molten glass and is held in a special furnace called a "blowing hole." The glass is then made to swell by having air blown into it, and to grow long by being swung over a trench. When the great tube of glass is cold it is split open and spread into a sheet in a kiln.



Dr. F. Bate &
MODEL VILLAGE

THE STREET IS VERY WIDE AND THE HOUSES ARE VERY TIDY IN THIS SLOVAKIAN MODEL VILLAGE. There seems no end to the number of different costumes worn in the different parts of Czechoslovakia. This photograph shows a street in a model village of Slovakia, but yet the men in the foreground are not dressed like the Slovak men shown on other pages. They have not got the great skirt-like trousers—though they make up for that in the width of their sleeves, and their little round hats are typical. The man on the right has a gay sheepskin jacket. These men, however, may all put on loose trousers and embroidered jackets when dressing for a holiday.



WHERE CHEMICALS AND COTTON ARE MADE IN NORTH BOHEMIA

When Bohemia was under the rule of Austria most of the towns were known by Austrian names, and during that time we should have said this photograph was of Bodenbach and Tetschen, facing each other across the Elbe. But now that Czechoslovakia is independent we must say that it shows Podmokly and Decin on the banks of the Labe

people are good farmers and cultivate every available bit of land. In the north, where the big cities are, many of the peasants work in their homes at jewel-cutting and bead-polishing. The roads through these hillside villages sparkle in the sunlight with many colours, because the bits of broken beads are thrown out of the windows.

The cottages are built of wood with wide overhanging eaves, like those of Switzerland, and often have only two rooms, which serve as living-rooms, bedrooms and work-rooms. The women keep everything beautifully clean, and the cooking utensils shine from frequent polishing. The Czechs realise the importance of education, and when the children have left the ordinary schools they generally go to an industrial training centre where they are taught some local industry.

Most of the young Czech men and women belong to gymnastic societies, called "Sokols," which means falcons. The motto of the Sokols is "Let us be

strong," and the men wear a loose fawn-coloured jacket over a red shirt, and a round fawn cap in which are fastened two falcon feathers.

The Czech rulers not only use the "Sokols" to keep the young people of the nation physically fit, but also as a means of increasing their patriotism. The movement was first started in 1862 and has developed very quickly, the Moravians are nearly all members of a Sokol, and the membership is getting steadily larger in Slovakia. Anyone can join, and the members form bands of brothers and sisters. Every Czech centre has its Sokol, and now and then great gatherings are held to which thousands of members come from all over the world.

Horaks and Hanaks are other interesting Slav peoples who are found with the Bohemian Czechs in Moravia. They are expert dairy-farmers, but also have their home industries, such as weaving and making wooden articles. They are not so progressive as the people of



Florian, Farmington

A RUTHENIAN WOMAN CAN MAKE HERSELF A SUIT OF CLOTHES FROM A FIELD OF HEMP PLANTS

In some parts of Czechoslovakia, especially in Ruthenia, the peasants use their clothes of a kind of coarse linen, that they spin themselves from fibres they themselves have drawn from hemp grown on their own fields. When cloth is made it is not clean and white, but is a pale, dirty-looking brown, so the women spread yards and yards of it along the river bank, keeping it down with stones, and girls wading in the river throw water over it. The hot sun soon dries the water up, and then they pour on more, until the cloth is white enough



A. W. Cutler

MAKING A NEW DRESS MEANS HARD WORK IN RUTHENIA

The hemp fibre that is used to make the peasant homespun is found in the stalks of the plant. These are gathered when ripe and soaked in water to make the fibres come away from the wood. This is called retting. When the rind comes loose the stalks are dried in the sun and are then beaten and broken with rough wooden choppers.



Florence Farmborough

AND STILL THERE IS THE SPINNING AND WEAVING TO BE DONE

Next the fibres are scutched—that is to say, are separated from the wood. This is done in a very primitive way, and it must take a long time to scutch a whole hemp field. The short and tangled fibres which are left make tow. The long ones are ready for spinning, after which process comes the weaving.



А. ИВАНОВ. ЗАПИСКИ.

SHEPHERDS WATCHING THAT NO WOLVES COME NEAR THEIR FLOCKS

In the northern parts of Moravia, Slovakia and Ruthenia, which border on the Carpathians, most of the peasants earn their living by tending cattle and sheep on the mountain slopes. They start to work when very young, and even quite small boys have charge of a flock. Most of the shepherd people belong to a good-natured and very hardy race called Vlachs.



Florence Farmborough.

THE BIGGER THE BOY GROWS, THE WIDER GROWS HIS BELT

These Carpathian shepherd lads look strong enough to tackle any wolf that comes near their flocks. They are wearing baize trousers of bright red and blue, and sheepskin coats over homespun shirts. When they were little boys they wore quite a narrow strap for a belt, but now that they are men, their belts are six to eight inches wide.



Florence Farmborough

COUNTRY PEASANTS MUST WAIT TILL MARKET DAY FOR SWEETS

When the peasant women of Ruthenia have sold the goods they brought to market, a little of the money they have taken must go to the Jewish sweetmeat man in exchange for some of his sugary-sweet goodies and cakes. In this town, with its well-built houses and paved streets, the sheepskin coats and bare feet seem rather out of place.

Bohemia, perhaps because the Austrian nobles had vast estates here where they used to come to hunt the wild boars. The trade of the province was then in the hands of Jews and Germans who had settled in the towns.

The Horaks live in the mountains and are taller than their Czech neighbours; the Hanaks occupy the valleys and are a sturdy race. The national costumes are more often seen in Moravia than in any other part of the country, even the men,

who are usually the first to adopt ordinary European clothing, can be seen wearing brightly coloured and richly embroidered waistcoats, sleeveless jackets covered with shining buttons, and small hats ornamented with wreaths of flowers or feathers. For centuries the Moravians were treated almost like slaves by the landowners, who did with them just as they pleased; but now that the land is their own and the trade is controlled by them, they are fast growing as prosperous as their Czech brothers.

OLD PEOPLES OF A NEW NATION

Other people who inhabit Moravia are the Vlachs. They are chiefly shepherds and occupy the mountainous regions in the north-eastern part of the province. Their lives are spent in the open air, which makes them hardy and gives them great powers of physical endurance. They are good-natured and have a keen sense of humour, but as yet they are rather uneducated. At one time Moravia was one of the leading kingdoms of Europe, but it was invaded by the savage Magyars, who conquered practically the whole of the country, the rest of it being seized by the Bohemians.

The Slovaks, or Slovakians, are said by some people to have been part of the original tribe of Czechs that settled in Bohemia, but others state that they were a separate tribe of Slavs who settled in the country before the coming of the Czechs.

They are simpler, more superstitious and less educated than the Czechs of Bohemia and Moravia. They also speak a different language. Quiet in manner, contented and industrious, they are mostly small farmers, using old-fashioned implements that are rarely seen in other more progressive parts of the country.

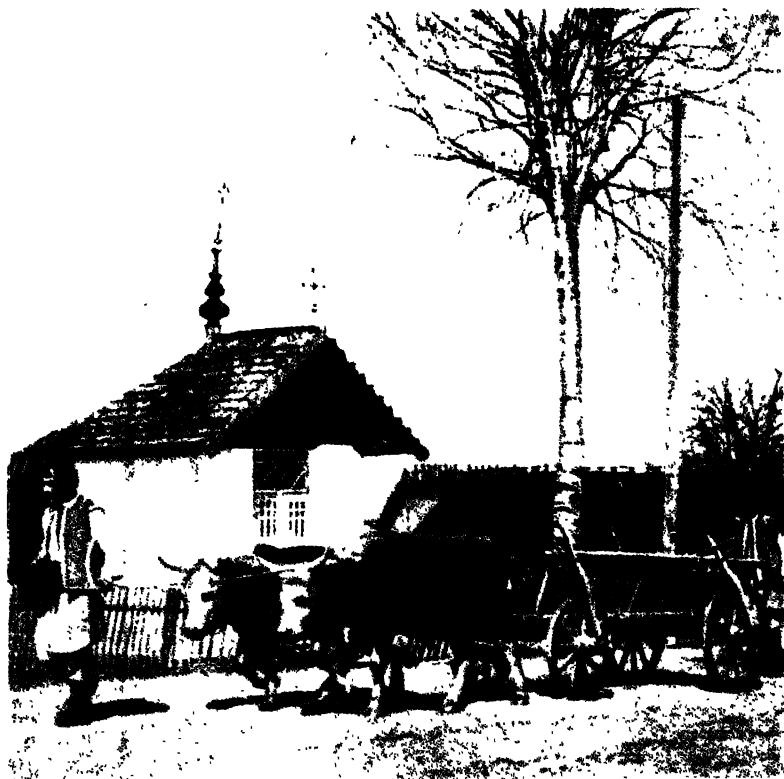
Many of the men come down from the mountains at harvest-time and go and work in the fields on the plains or in Germany and Denmark. Others wander about Austria, Hungary and southern Russia as travelling tinkers, mending pots and kettles by the wayside.

Many Slovak girls at one time used to go as nursemaids to Vienna and other cities, where their bright national costume of white bonnets, small dark jackets, short skirts, gaudy aprons and stockings attracted much attention.



Florence Barnborough

IN HOMESPUN AND SHEEPSKIN, ALL LOOK THEIR BEST ON SUNDAY
On Sundays, everyone must wear his best clothes in Ruthenia, and the men there do not allow the women to have all the finery. What they cannot have brightly coloured must be fresh and white, but they do not trouble themselves about best shoes. It must be a proud day for a boy when he puts on his first decorated sheepskin coat.



Florence Farmborough

A LITTLE SHRINE UNDER THE BIRCH TREES OF A COUNTRY ROAD

By the wayside, in the country districts of Czechoslovakia, are found many little shrines such as this, past which the peasant walks with bared head. Oxen, instead of horses, are used to draw the farm carts, and are yoked together by a wooden bar across their necks.

This pair seems to have learnt the way to keep in step.

In southern Slovakia the people are better off than in other parts of the province, and the walls of the cottages are painted with pretty designs in several colours. Brightly ornamented pottery and rows of pewter vessels are to be seen upon the shelves, and the women seem to spend nearly all of their time in making beautiful embroidery for their Sunday clothes. In the great linen cupboards are tablecloths and strips of carpet similarly embroidered.

Most of the people are poor and ready to go anywhere to get work. Their food is simple, for the favourite dish, which is only made on special occasions, is black

or rye bread, soaked in water, to which eggs and sheep's milk are added. It is a rather dreadful thing for a stranger to have to eat, but the peasants can never have enough of it. Common articles, such as knives and forks, are so scarce that wedding guests are asked to bring their own plates, knives and forks. This is also done in the country districts of Hungary.

On market-day the country people come into Bratislava, where the stranger will see the long, narrow wagons, drawn by buff-coloured oxen and laden with different kinds of vegetables, crowded together in the market-place. The dealers in particular articles are all

OLD PEOPLES OF A NEW NATION

grouped together. Here are the bakers, there the drapers, or sellers of boots and shoes. In another place are the fruit sellers with heaps of dark-green melons, and baskets of the delicately flavoured red pepper, or paprika, which is much used all over Europe.

The women wear dark-blue dresses and headkerchiefs of a deep yellow brown, but the men, who keep their long hair in plaits, wear a coat of white baize with a broad leather girdle, sandals, and a wide-brimmed hat. The plaits of hair falling over their shoulders make them look not unlike the pirates of old, but they are really extremely good-natured.

The Ruthenians or Red Russians are a small branch of the Slav race which occupies the Ukraine, a part of the former Russian Empire, Polish Galicia and Rumanian Bukowina. They are poor, uneducated people, and most of them are labourers. In the less frequented valleys of the Carpathians the cottages often have only one room, and most of this is taken up by a stove, on top of which the family sleep. The Czechs are making great efforts to improve the state of these people, encouraging them to manufacture furniture and paper and to build factories of their own. Model farms have also been started by them to help the peasants.



FIGURE 1. LAMBOROUGH

THE HOUSE THAT BOASTS A STORK'S NEST IS LUCKY INDEED

In Ruthenia it is thought to be very lucky for those who live in the house upon which storks build their nest, and the woman in this photograph would be very sad if the great birds left. The nest looks as though it were made of the same stuff as the thatched roof, on which bundles of hemp flax are drying in the sun.



WOMEN DRAWING WATER AND WATERING SHEEP AT A BEAUTIFUL OLD VILLAGE FOUNTAIN

Water is not laid on to the houses of Lebanon, and we can understand why when we look at the photograph of one of them on page 34⁵. Every village, however, has its fountain, and there the women meet to fill their pitchers and talk over the gossip of the day. One woman has brought her sheep to the fountain this hot sunny day that she may cool him and clean him with a shower-bath of cold water. The animal seems rather to like it, and indeed in hot weather his thick coat, which is used to make the native cloth, must be very heavy.

Lebanon and the Druses

WARLIKE MOUNTAINEERS OF A RUGGED LAND

Babylonian, Assyrian, Greek and Roman armies have each in their turn occupied this country which lies by the blue waters of the Mediterranean. In the middle of the nineteenth century, under the Turks, this region was the scene of fearful religious persecutions, Moslem, Druse and Christian fighting savagely one against the other. The Turks were driven out of the country in the Great War, and Lebanon became a separate state. But the Druses wished to live in complete independence in their mountain fastnesses, and again the land became one of unrest, so that the French, who are administering the country, found they had a new problem to solve.

GREAT LEBANON is one of the most interesting little countries in the world. It lies to the north of Palestine and stretches for about 120 miles along the eastern shore of the Mediterranean. From east to west it is from 30 to 35 miles wide. The total area is about 4,300 square miles, and there is a population of a little over 600,000.

Before the Great War this mountainous country was a Turkish province, but when, in 1918, General Allenby completed the conquest of Palestine, he pushed on through Syria to Damascus, the "Pearl City of the East." In this way the Turks were driven out of the land, and shortly afterwards the victorious Allies entrusted the administration of Lebanon to France, while Palestine proper was placed by the League of Nations under the protection of Great Britain. The national flag of Lebanon is now the French tricolour, but with a cedar tree on the white band.

Down the whole length of this little state, roughly parallel with each other and with the coast, run two

ranges of mountains, the Lebanon and Anti-Lebanon. Between these is a well-watered and fertile valley, where rises the River Barada, which, passing east into the great desert of Syria, runs through the city of Damascus and turns the surrounding country into a green and fertile oasis.

Not far from the source of this river is a small and rather insignificant little town

beside which lie the ruins of Baalbek, one of the greatest and oldest cities in the world. When it was first built we cannot tell, nor do we know who built it. Probably the Phoenicians who lived here many centuries ago. At different times various nations have captured and held it until they in their turn have been conquered. But a little over 500 years ago it was sacked by the Mongol hordes of Timur the Tartar. Nothing is now left of this wonderful city but its ancient walls and the ruins of certain temples, notably the Temple of the Sun, which must have been one of the greatest buildings that have ever been erected.



A DRUSE BRIDE'S FINERY

This queer headdress, eighteen to twenty inches high, was once generally worn by the women of Lebanon. Now it is rarely seen, even among the Druses.



LITTLE MAKERS OF MUSIC IN A VILLAGE OF LEBANON

In Lebanon Druse women, like the true Mahomedans, wear a yashmak—a veil worn over the face from just below the eyes. It is joined to the head-dress, which is pulled down low over the brows, by a wooden ornament. These young people hope, by the music of tambourine and a kind of viol, to charm coins from the pockets of passers-by.



ARCHWAYS MAKE A SHADY REFUGE FROM THE BLAZING SUN

This shows a gateway leading to the courtyard of a well-built house in a mountain village. Druse women always wear a veil, but the little girl standing here is too young to trouble about that. Girl babies are never wanted, but there is always great joy when a boy arrives, and the eldest son, even when a baby, is a very important personage indeed.

LEBANON AND THE DRUSES



GUIDE TO MOUNTAIN PATHS

There are so few roads or good paths in the country, and the mountains are so broken up into ravines, that a guide is needed by anyone wishing to travel.

On the Lebanon range the mighty cedars, from which Solomon built his Temple at Jerusalem, once grew in abundance. With the consent and assistance of Hiram, the king of Tyre, Solomon sent 30,000 men to Lebanon to cut and carry the timber. They were divided into three groups of 10,000 men each, and they worked in turns,

each group working one month and then resting for two.

Between the Lebanon and the sea is a strip of fertile land with coastal cities which were old in Solomon's time, for they are the famous cities of the Phoenicians—Beirut, Tripoli, Tyre and Sidon.

The Phoenicians might be called the English of the Ancient World, for they had command of the sea. They were the sailors and traders who ventured into unfamiliar waters beyond the Mediterranean, and who carried the beautiful merchandise of the East to the far corners of the known world, even sailing to Cornwall for the tin that was mined there.

All their coastal cities were built with harbours and docks, warehouses and factories. The people grew exceedingly rich, for in addition to this carrying trade they had certain special industries of their own. The Phoenicians were not inventors, but they were clever at improving upon the methods of other people. They were noted for the making of glass and for a purple dye which they extracted from a small shell-fish found on their coasts. This famous dye was very costly and was the "royal purple" used for dyeing the robes of emperors. The ancient Greeks knew all about these Tyrian dyes, for their blind poet, Homer, sings of them in one of his poems.

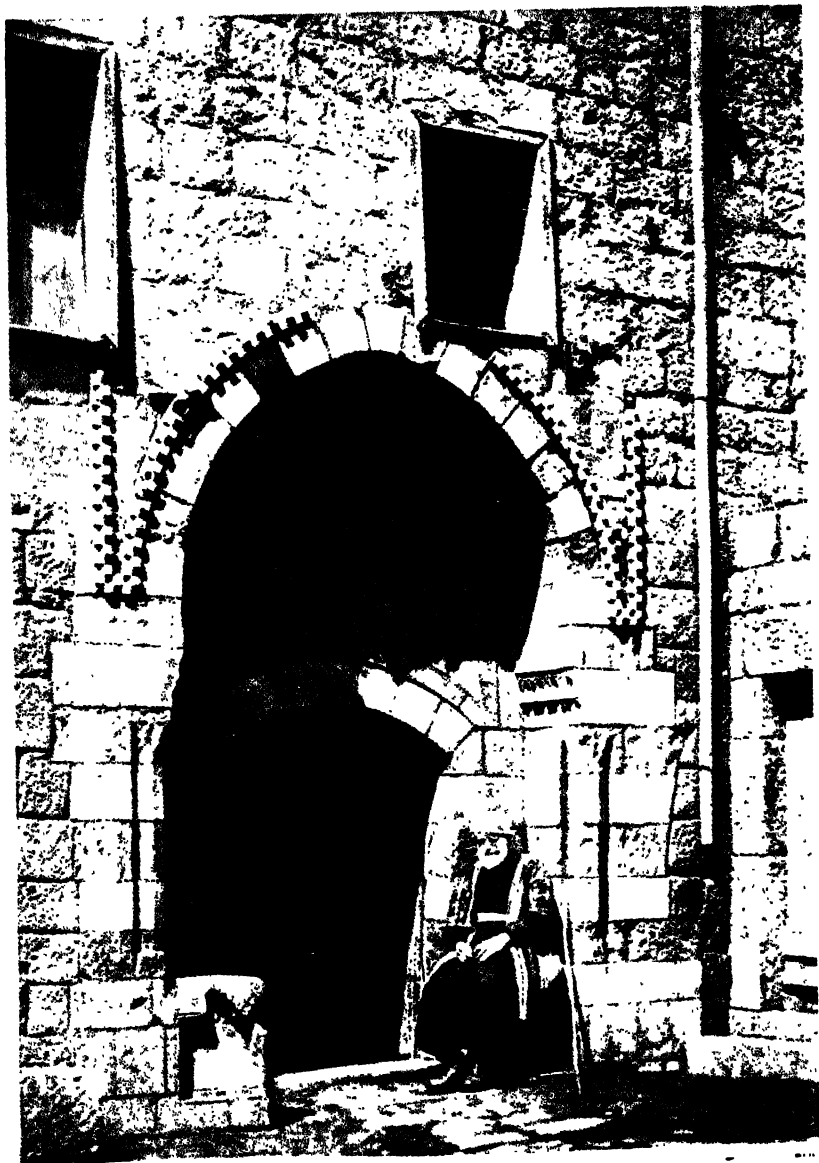
Across Lebanon from west to east, through the valleys and over mountain passes which are still in use, ran the great caravan routes, by which the camels coming from over the Syrian desert brought the silks and beautiful wares of the East to Tyre and Sidon. From north to south ran another great road, the highway between Egypt and the ancient empire of Assyria, along which in time of peace passed the merchants with their caravans, and in time of war tramped great hosts of warriors.

Here passed Rameses II, the mighty king of Egypt, to war against the Hittites, a powerful and civilized people whose country lay north of Lebanon. He defeated them in a great battle at their



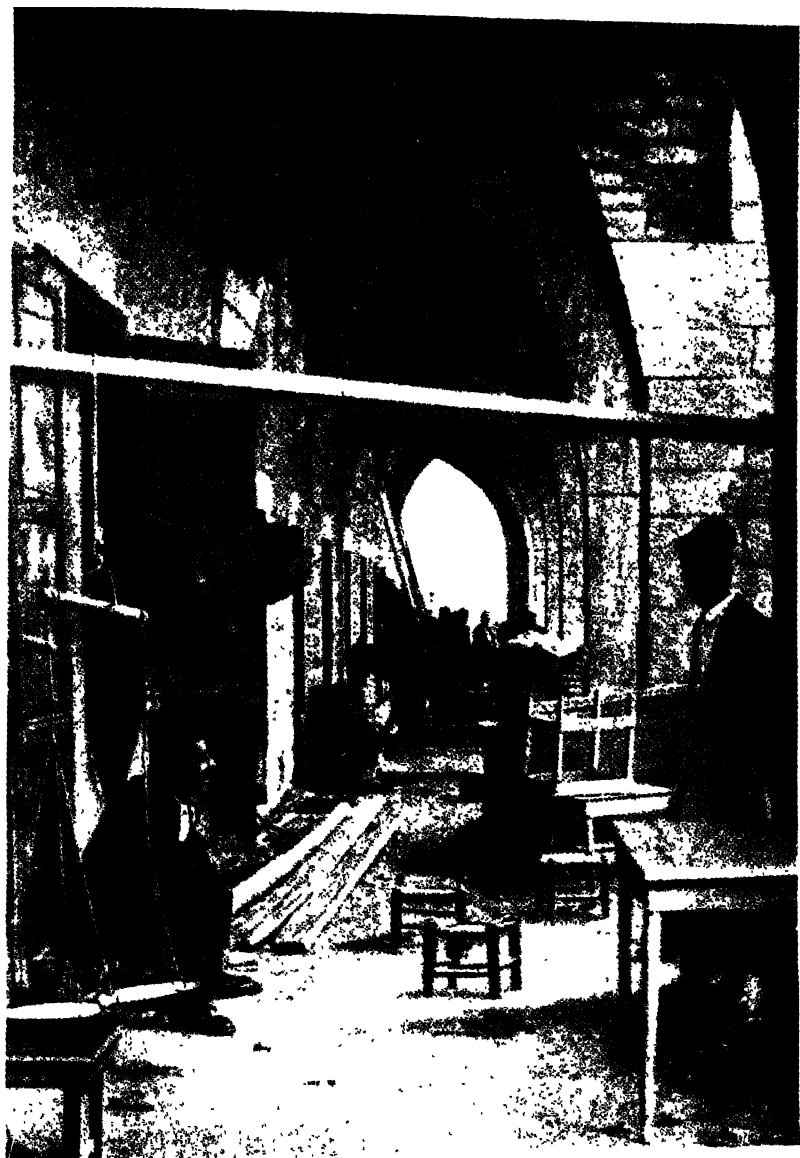
POORLY CLAD DWELLERS ON THE SLOPES OF MOUNT LEBANON

The Druses of Lebanon are nearly all agriculturists, but as they are also mountain dwellers and good, deep soil is rarely found high on a mountain side, they have had to carry earth for their crops from the fertile valleys. On the terraces they have made are planted mulberry trees for their silkworms, olive trees and vines.



THIS WAS ONCE THE GATEWAY OF A CRUSADER'S CASTLE

The Druses are not clever architects and it is very rare that anything so beautiful as this archway is seen in one of their dwellings. The Druse chief shown in this picture, however, lives in what is left of a castle built centuries ago in the times of the Crusades. It is in the town of Metain, or El Metein, which lies a few miles east of Beirut.



ITS ARCHED ROOF PROTECTS THE BAZAAR FROM BOTH SUN AND RAIN

This narrow, beautifully arched alley-way is the shopping centre of Sarba, a little town of Lebanon, but, the market being over for the day, it is very quiet and still. The cheerful merchant in the foreground is taking a rest on a little four-legged stool. Seldom will the rubbish be cleared away, as Orientals are not troubled with the Western desire for tidiness.



WOMEN MOURNING BESIDE A GRAVE NEAR A LONELY ROAD

When a Druse dies his relatives do not wear mourning, nor do they hold a burial service for him. They show their sorrow by loud cries and by calling on his name, and they even hire people to come and help them by wailing. For several weeks after he has been buried, women go to his grave to weep and chant prayers.



DWELLING IN A DRUSE VILLAGE CANNOT BE VERY COMFORTABLE

In the usual Druse house there is only one room, and that with no windows, in which in winter the whole family sleeps, with their donkeys, their cows and their sheep. Steps lead to the flat roof, where the family sleeps in summer and where an upper room may be built for the use of visitors, as the Druses are very hospitable.



FIELDS MUST BE PLOUGHED BEFORE THE SNOWS OF WINTER COME
 Although nearly all the Druses live upon what they get out of the soil, they have very primitive ways of cultivation. In some places they have not even a plough, but dig up their fields with a spade to the blade of which is attached a cord. One man holds the spade in the earth at right angles and pushes, and another man pulls on the cord.



HOW THE MEN OF THE MOUNTAINS SPEND THEIR LEISURE HOURS
 Two men of the Lebanon are shown here, playing a kind of backgammon and smoking a strange Eastern water-pipe known as the hookah outside a little country café. Maronites, Druses, Greeks and Beduin Arabs are the chief races that live in Lebanon. Maronites and Greeks are Christians, Arabs are Moslems; and the Druses have a religion of their own

LEBANON AND THE DRUSES

capital city, Kadesh on the Orontes, and having broken their power, made peace with them and took back to Egypt a Hittite princess to be his queen.

Sennacherib, king of Assyria, came this way with his warrior host, boasting of what he would do to the unfortunate King Hezekiah in Jerusalem. Here he repassed on his journey home to Nineveh, leaving behind him the flower of his army, who had died without striking a blow.

Many of the ruined castles which one sees to-day perched on lofty heights in Lebanon, and numbers of the houses used by the important chiefs, are remains of the Norman strongholds that were built by the Crusaders.

The present inhabitants of the country are mainly Maronites and Druses, with a certain number of Moslems, among them a sprinkling of Beduins. The Maronites, who make up most of the population, are Roman Catholic Christians under the rule of a Patriarch. They take their name from their famous leader, John Maro. They are descended from the ancient Syrian races, and have lived on in

the mountains in spite of the changing world about them. To-day they live mainly in the northern part of the mountains, in the central valleys and in the villages and cities of the rich strip of land along the coast.

They are a dark, swarthy race, like most of the peoples of the East. Their big national festival is held on September 14th. On the preceding evening, when the first stars appear in the sky, bonfires are lighted all over Lebanon, guns are fired, and amidst shouting and rejoicing all the men and boys leap over the flames they have kindled.

The Maronites have a curious custom in connection with the cedars of Lebanon. Of these trees, with which the mountains must once have been covered, there are now only scattered groups, but there is one famous grove, that of Bsherreh. This group of about 350 trees grows in a depression near the summit of the mountains at a height of 7,000 feet above the sea, and during the greater part of the year the ground around them is covered many feet deep with snow.



THIS HUSBANDMAN OF LEBANON ENJOYS A JOKE WITH HIS WIFE

To provide itself with food and warm clothing for the long winter months when snow lies thick upon the ground, every household of Lebanon keeps at least one of these large-horned, fat-tailed sheep. They are fattened by the women, who force them to eat such large quantities of mulberry leaves that they grow too big to walk.



FISHERMAN OF THE MEDITERRANEAN'S SHALLOW COASTAL WATERS

All along the coast of Lebanon fishing is carried on, much of it being done by means of hand nets, such as the one this young fisher lad is uncoiling ready to throw. He will then take the cord attached to one end, a companion will take that attached to the other, and between them they will drag the net through the shallow water

The trees are of varying sizes, with a few of great age and size, some having a circumference of over 44 feet. Once a year, on the day of the Transfiguration, the Maronites come from far and near, and crowd up the mountain side to a big open-air service, when the Patriarch celebrates Mass on a stone altar at the foot of one of the biggest cedars. The Maronites have always been Christians,

and during the Crusades they rendered great services to the Crusaders, as well as contributing 100,000 soldiers to the armies of the Christians.

The Druses, though much fewer in numbers than the Maronites, are, perhaps, the most interesting race in Lebanon. They live in the southern part of the mountains under the shadow of Mount Hermon, and also in the Hauran, in

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Syria This district lies to the south and east of Mount Hermon, and consists of a well-watered plain with hills on its eastern side. This is "the land of Bashan" of the Bible, the "country east of Jordan," which the Israelites conquered, driving out the native ruler, "Og, King of Bashan." It was to the hilly part of the Hauran that the Psalmist referred when he spoke of "the high hill of Bashan."

Hither throughout the centuries the Druses of Lebanon have migrated whenever conditions at home became unbearable, for, though they were still under Turkish rule, they were farther from the seat of government and life was much freer in many ways.

Even in Old Testament days the Hauran was a land of plenty, and in the present day, under proper cultivation and more settled conditions, the Hauran



MEN, WOMEN AND CHILDREN HELP TO TAKE IN THE OLIVE HARVEST
Olive trees are a very important source of wealth and food to the people of Lebanon, and great numbers of them are grown, especially in that part of the country south of Beirut and north of Sidon. The fruit is eaten both fresh and pickled, and olive oil of various qualities is made and exported. The oil is also used for making soap.

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is a golden land, for it is the land of wheat. At harvest-time the grain from each village is loaded on to camels and taken to the nearest point of the railway which, owing to French enterprise, now runs through the country. To-day 80 per cent of the inhabitants of the Hauran are Druses, and some of them have spread still farther north to Damascus, living either in the city itself or in the belt of orchards by which it is surrounded.

The Druses differ in almost every respect from the Maronites. They are a tall, rather fair race, handsome and well built, strong and hardy. They have long been regarded with great interest in Europe, their bravery and intelligence having won for them a fame that they fully deserve.

Exactly where they came from originally is not known, and very little is known of their religion, except that it came from Egypt, and was brought to Syria by a certain Persian Mahomedan missionary named Durazy, from whom the Druses get their name. Durazy was a friend and follower of the Caliph Hakim, who was one of the cruellest and maddest men who ever lived. Durazy claimed that this mad Caliph was divine, and the Druses believe that he will some day come again on earth as a saviour and king.

Another belief of the Druse people is that the number of people in the world never grows greater or smaller, because whenever a person dies a baby is born who receives the soul of the dead person. They do not try to convert other people to their religion, because they think you cannot be a Druse unless you are born of a Druse father and mother. They have no mosques or churches as they have no public worship. Until quite a short time ago the more ignorant



Underwood

TINY SPINNERS OF SILKEN THREADS

Druse children are giving a meal of mulberry leaves to a trayful of silkworms. Much of the fine silk stuffs made in French factories comes from Lebanon, the thread being spun there by myriads of caterpillars such as these.

of the Druses, especially the women, knew little about the rest of the world, and they had the idea that China was full of Druses and thither went the souls of the righteous to a sort of paradise.

The better class, the more educated and intelligent, are admitted to a special circle called the Okkal. Members of the Okkal meet once a week, on Thursday, which is the Druse "day of rest," in a plain meeting-house in the village, and it is believed that there they read sacred writings and talk on religious matters; but no one knows for certain, because everything concerned with their religion is kept secret. If, by any chance, a Moslem should enter their gathering they stop whatever they are doing and begin

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immediately to read the Koran, which is the Mahomedan Bible.

Many of the Druse children go quite willingly and happily to the Christian missionary schools which English and Americans have established amongst them, but whether they are really becoming Christians is not known, for one of their rules is that a Druse may profess any religion with which he comes in contact so long as in his heart of hearts he still remains absolutely true to the Druse faith.

Those wishing to enter the Okkal have to prepare themselves by very strict living; the men have to give up, for the time being, wine and tobacco, and the women may not wear silk clothes, gold or silver ornaments. When once they are members of the Okkal, the men wear a white turban round the red fez, and the women are supposed to put on the ancient head-dress formerly worn by all Lebanese ladies, whether they be Maronite or Druse. This head-dress, which is illustrated on



Underwood

LEBANON'S CHILDREN HELP IN ALL STAGES OF SILK MAKING

In this photograph the pale gold cocoons are shown heaped on shelves in the drying-room. Before this they have been steamed to kill the little pupæ inside. Druse boys are turning the heaps over with wooden shovels, for if the cocoons stay long in one position the dead insects will go bad. It takes over three months for the cocoons to dry.



AN ANXIOUS MOMENT FOR THE OWNER OF A SILK FARM

When the cocoons are quite dry, they are packed into great bags and carried to market on the back of horse or donkey. The man at the horse's head seems very troubled lest the merchant examining his wares should say he will not buy. The quality of the silk and the size of the cocoon depend upon the care given in rearing the silkworms.

page 341, consists of a small cap from which rises a horn 18 to 20 inches high, frequently of silver, and sometimes richly ornamented and set with jewels. Over the top of this passes a veil, which hangs down on either side of the face, and when passing a stranger in the street the lady is supposed to draw the veil over her face, leaving one eye uncovered. This interesting but uncomfortable custom is dying out, and the horn and veil are worn only on ceremonious occasions.

For centuries Druses and Maronites were deadly enemies and fierce fights

between them were frequent. Differing so much in some respects, they were alike in being industrious and thrifty people, making the utmost of their land. In the plains this is comparatively easy, for the soil is so fertile that the villages stand amidst cornfields and vineyards, and in plantations of such useful trees as the olive, walnut, mulberry and fig. The western slopes of the mountains, those facing seaward, are also very fertile, and here are grown all the trees that are cultivated in the plain, as well as such crops as corn, grapes and tobacco. The





Underwood

THE CEDARS OF LEBANON ARE GIANTS AMONG TREES

From Bible times Lebanon has been famous for its giant cedars, which grow from eighty to a hundred feet high and were formerly known as the Glory of Lebanon. There are not now as many of these great trees as there used to be, but some still grow high up in hollows of the mountains, especially at Bsherreh, near Mount Lebanon.

cedars and the cypresses grow near the summit of the range, above other trees.

Wherever they can find room, wild flowers spring up in abundance, and it is no wonder that bee-keeping is a big industry and honey one of the principal articles of food.

In early March a bright green line appears right along the mountain side—

the mulberry trees are in full leaf. This is the signal for the schools to close for some weeks, for now the women and children must work all day, and sometimes all night, stripping the leaves from the trees and feeding and tending the silk-worms, for silk is the chief product of Lebanon. A few weeks later the green streak has turned brown, and donkeys



GREAT LEBANON IS PUBLICLY PROCLAIMED A SEPARATE STATE

On September 1st, 1920, General Gouraud, the French High Commissioner for Syria, publicly proclaimed in Beirut that Lebanon was in future to be a separate state independent of Syria and under French protection. He is shown here with the Maronite Patriarch on his right and the head of Lebanon's Moslem population on his left.

and mules with garlands round their necks pass by, laden with sacks of yellow cocoons which they are taking to the factories. And here the boys and girls are needed again, for they must give their help in unwinding the cocoons and reeling the silk on to bobbins.

The work of the children does not cease with the end of the silk season, for they are expected to make themselves useful, helping to gather in the harvests of grapes and olives, which are so important to the people of Lebanon.

Even in the steep and rocky parts of the mountains the people make an effort to grow something. They make terraces

along the face of the rock, edging them with stones and boulders to keep the soil from slipping away. Sometimes if a bare piece of rock happens to be in a sunny spot they will carry a layer of rich soil up from the valley below, and there they will grow a tiny crop of wheat or barley or tobacco, or they may plant a few mulberry or olive trees. It is said that all the good soil found thus high up the mountain was laboriously carried there by the Druses of old.

When the soil is not suitable for cultivation they keep vast flocks of sheep and goats, which they find very profitable. Indeed, some of the chiefs and heads of

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the big families in Lebanon are very wealthy. They keep open house for friends and relatives, and are very hospitable to strangers.

Some few years ago a traveller calling unexpectedly at one of these great houses was just in time to see the serving of the midday meal. The courtyard was crowded with guests and retainers, servants and

children. From the house came four servants bearing an enormous vessel full of steaming hot food—kid, mutton, rice, vegetables and various other things.

This they set on a wooden frame, the chief made a sign, and as many as could find a place surrounded the cauldron, feeding themselves with the finger-tips of the right hand. These were the guests



G. Chichester

PATRIARCH OF THE MARONITES AND THE BISHOP OF BAALBEK

The Maronites are a race of Christians who live in parts of Lebanon and Syria. Their religion has been the cause of many fierce conflicts between them and the Druses, whose religion is kept a secret. The head of the Maronite Church is the Patriarch who is shown on the left. With him is the Bishop of the ancient town of Baalbek.

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and more important members of the household. When satisfied they withdrew and their places were taken by a second group, who, in turn, gave place to a third. As no party contained less than 20 people the size of the cauldron and its contents may be imagined

How they Fatten a Guest

A missionary who has worked in the Lebanon for many years says that, whenever he is invited to a native house, he wonders how he can please his hosts by eating what is put before him without making himself ill. He gave this as a sample meal: soup (full of rice, macaroni and vegetables), three rich dishes of meat, containing lumps of fat intended as a special treat for the visitor who, being thin, is supposed to require fattening, sweet pastries floating in melted sugar, and as a last course, several rich sweets made, for the most part, of nuts.

Summer in Lebanon is long and sunny, and in the plains very hot. The winters are short, though occasionally they are severe. In the winter of 1911, which was exceptionally cold, a large caravan arrived in a Syrian town unaccompanied by a single human being. The drivers, unable to face the terrible weather, had dropped out of the march some days previously.

What Followed a Massacre

In 1860 the Druses of Lebanon, incited by the Turks, massacred a great number of the Maronite Christians. France and Great Britain interfered and secured from Turkey better conditions for the country, including a Christian governor. From this time things improved rapidly, trade revived, some of the harbours of the old coastal cities were cleared and rebuilt, the old caravan roads were repaired, and in time Christian missionaries came from France, England and America, and started schools for the children.

At one small village in the mountains a school which started with 17 children in 1908 had 351 in 1912. In that year the present Bishop of London went all through the Druse country and when he alighted

at a station on the Damascus railway he was met by a guard of honour composed of Boy Scouts from the missionary school. There is no doubt that these schools now springing up all over the country are bringing better health and more interest and happiness into the lives of the young people of that mountainous land.

When the Great War broke out the people of Lebanon entered a terrible time. In 1916 the Turks tried to secure the crops, but both in Lebanon and the Hauran this was resisted, so in 1917 they drew a cordon round the Lebanon and endeavoured to starve out the people. Then for the first time in their history Maronite and Druse united. They not only refused to fight in the Turkish armies, but, hampering them by every means in their power, they rendered great assistance to the Allies.

When Twenty-five Thousand Died

When Allenby's troops entered Beirut they found the native population starving. It is said that in that city alone during two years 25,000 people died of starvation, and in the Lebanon as a whole, what with the failure of some of the crops through the locusts and with the epidemics of typhoid and typhus, it has been estimated that war, pestilence and famine swept away 40 per cent of the population.

Under the new conditions prevailing since the Great War the country is rapidly recovering and will probably rise to very great prosperity. Unfortunately towards the end of 1925 large numbers of the Druses, who said that the French High Commissioner paid no attention to their grievances, rose in revolt and, with some of the Beduins, attacked Damascus. As a consequence the country was thrown into a state of unrest, and it will still be some time before the people can get the best that is possible from their interesting and beautiful land, the land of which the Arabian poets, referring to its snowy heights, its mountain streams and fertile plains, say that it carries winter on its head, spring on its shoulders, autumn in its lap and summer at its feet.



McGann

CURIOUS MEDLEY OF COSTUME IN A CONSTANTINOPLE BYWAY

Constantinople is conforming more and more to the general European style of architecture and of clothes. The buildings in this photograph might belong to any British town, and so might the man on the right and the white-coated errand-boy, but the tall-capped dervish and the man carrying his goat pick-a-back are very Eastern indeed.

Constantinople the Coveted City

TURKEY'S LAST FOOTHOLD ON EUROPEAN SOIL

THE approach to Constantinople by sea prepares us for the great beauty of that city. We pass up the Dardanelles to the little Sea of Marmora, and after a few hours our ship comes within sight of the domes and minarets that rise, fairy-like, from the many hills on which Constantinople is built.

As we draw nearer the city we see the rugged walls and battlements which at one time defended it from invaders. We follow the city's three lines of sea-washed walls until we come to the old ruins and pavilions of Eski Serai, the Old Seraglio, which was at one time the palace where the Turkish sultans dwelt.

The Seraglio is passed and we steam at last into Constantinople's harbour, which is called the Golden Horn. It is one of the most fascinating ports in the world. A thousand boats sway gently at their moorings, or bear out to sea on some strange errand. Narrow, cushioned rowing-boats cut swiftly through the shadows cast on the water by huge liners. Gaily-painted "cajques," or Turkish sailing-boats, pass and repass.

Swift motor-boats dart like dragon-flies among the maze of other craft, and heavy barges lumber along like oxen of the sea. We hear the endless creak of rigging; seagulls wheel and swoop above us; ship's



Brue

CONSTANTINOPLE ON THE GOLDEN HORN: A CORNER OF ASIA THAT HAS STRAYED INTO EUROPE

The wonderful mixture of East and West and old and new that makes Constantinople is now almost all that remains of Turkey in Europe. It was founded by Greeks in the sixth century before Christ, and, until the Roman Emperor Constantine made it his capital in A.D. 330, it was called Byzantium. In the foreground is the quarter of the city known as Stamboul. Across the waterway, the Golden Horn, are the business districts, Galata and Pera. Out of the photograph and to the right, across the Bosphorus, is the suburb of Scutari.



363 **A GLORY OF CONSTANTINOPLE: THE MOSQUE OF AYA SOPHIA**

This great mosque is very remarkable in having been founded as a Christian church, the Church of the Divine Wisdom, by Constantine the Great. The present building dates from 538, but it was not until 1453 that it became Moslem. The minarets at the four corners were built then, and Christian symbols were effaced from the beautiful interior.

syrens shriek ; and through all is heard the low muttering of the city's life.

In front of us a host of modern buildings straggle up a hillside to form the European quarter. To the left are the domes and minarets of Stamboul, the Turkish heart of Constantinople. In the opposite direction are the cool, green hills that rise from the shores of the Bosphorus. Behind us, on the other side of the water, is the big white railway station of Haidar Pasha, and north of this are cypress trees guarding an enormous Turkish cemetery.

There is a story told about these cypress trees. As we approached Constantinople we could not but notice the many little birds, like thrushes, skimming the surface of the water. All day long,

and apparently all night long, they may be seen swiftly darting within a few inches of the sea, but never will you see them at rest.

Now the story is that these birds are the souls of dead Turks who had done some evil in their lifetime. And this ceaseless flying is the punishment they have received. Once a year they all meet among the cypress trees, when they welcome new souls to their ranks.

Another story is that one of these birds, long ago, was given a message from the sultan to a Turkish general on the Dardanelles. The message was lost in the water, and, as this was a great disgrace, all the birds of the same kind spend their time flying along the Bosphorus and the Dardanelles looking for the lost dispatch.



Sabah & P. Miller

WHIRLING DERVISHES : FOLLOWERS OF A FORM OF WORSHIP THAT DOES NOT APPEAL TO WESTERN MINDS
 This remarkable photograph shows a number of very pious men, the slowly or amazingly fast according to the music. It is all done with Mevlavi, or whirling dervishes, performing their acts of worship, very devout solemnity. Their headquarters are at Konieh in Anatolia, but there is a colony of them at Constantinople. In this part of the world a dervish always wears a tall cap of grey felt.



Special Photo

AN OPEN-AIR MEAL IN A MARKET OF OLD STAMBOUL

Near the Yeni Valideh Mosque, the mosque we can see on page 362 near the bridge and again on pages 366 and 367, is a little market, and here there are stalls where passers-by can get a plate of "pilaf"—boiled rice, raisins and spices, mixed with some kind of meat. Pilaf is nearly always an item of a Turkish meal.

Now to Constantinople itself. It is one of the most thrilling cities in all the world. Its age alone is enough to make us wonder. We look upon London, Paris and Berlin as very old cities, but they were nothing more than villages when Constantinople was one of the fairest cities the world had ever seen. Other places, like Athens in Greece, or Rome in Italy, are really older; but Athens and Rome had long periods in which they were unimportant, almost uninhabited and half-forgotten.

That was not the case with Constantinople. From the very beginning the city was of great importance. From the very beginning it has been the leading city of that part of the world which we now call the Near East. Its position on a wonderful land-locked harbour, the Golden Horn, which is connected by the Bosphorus with two seas, the Marmora on the south and the Black Sea on the north, made it certain that Byzas and his other Greek colonists, who founded the city six centuries before

Christ, would find the success promised to them by the oracle of Delphi, in Greece.

The city became prosperous and beautiful, and envious invaders were always attacking it. Usually they were unsuccessful. Its natural position, with the waters of the Golden Horn on one side, and the Bosphorus on another, and the strong land and sea walls, made it almost impossible to capture it. The Romans, however, were successful in the fourth century B.C., and Byzantium became part of the great Roman Empire.

Now the time came when Rome herself had lost a great deal of her influence. So Constantine, who was the first Christian emperor, decided to move his court, bag and baggage, to the Bosphorus, and there to establish a new capital of the Roman Empire. He built his new city, an enlargement of the ancient Byzantium, on seven hills, because Rome was built on seven hills, and he called it Nova Roma, or New Rome. But, in spite of this, the people gradually began to call it Constantinople.



FLOCKS SENT BY THE FAITHFUL AS SACRIFICES TO ALLAH

This is a photograph of something that could be seen nowhere else in Europe. It shows a great flock of sheep being driven up the steps of the Yeni Valideh Mosque in Stamboul. On the day when great sacrifices are offered up near Mecca, great numbers of sheep are killed in every important Mahomedan centre.

in his honour ; and Constantinople it has remained ever since, though the Turks call it Stamboul or Istamboul.

When the Roman Empire fell, Constantinople continued to be a great city, ruling large territories ; but it would not be just to say that it was Roman any longer. It was, in fact, a Greek city, ruling a Greek Empire ; and it lasted as such down to May, 1453, when the last Emperor died gallantly defending Constantinople, and the Turkish sultan, Mahomet II., led an army, frantic with victory, through the gates of the city, and planted the green flag of Islam where before had been the cross of the Christian Greeks. Since then Constantinople has belonged to the Turks, and it was the capital of the Turkish Empire until the country became a republic, of which

Angora, in Asia Minor, was proclaimed the capital in October, 1923.

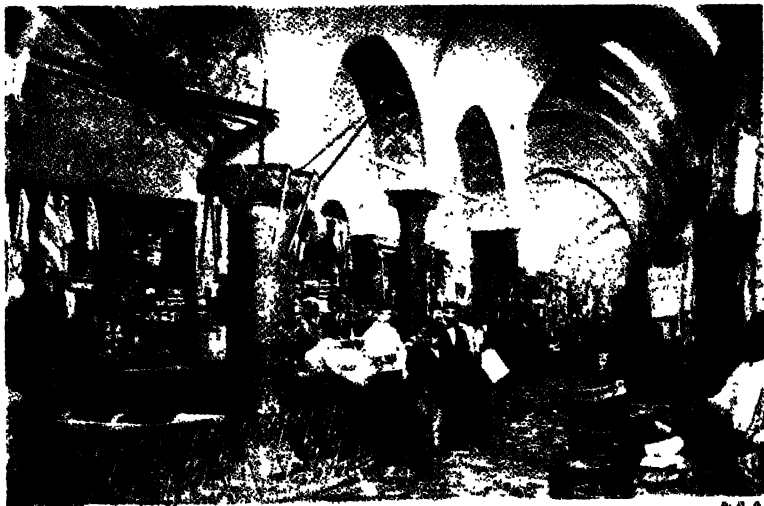
So much for the history of Constantinople. It is always good to know something of a city's history. It helps us to understand many of the things we see, and we are better able to cast our minds back hundreds of years and to imagine what things were like in olden days. In the case of Constantinople it enables us to see a city which, in early Greek times, was called "the Dwelling of the Gods"; then to become, under Constantine the Great and those emperors who followed him, the Queen City of Christendom ; and finally the heart of the most powerful Moslem country the world has known.

Let us now get a bird's-eye view of Constantinople. For this we can do no better than climb up the Seraskerat



"MOSQUE OF THE SULTAN'S MOTHER" FROM THE NEW BRIDGE

The Yenî Valideh Mosque was built by the Sultana Valideh, mother of Mahomet IV., in the seventeenth century. Its minarets have each three carved galleries, its great dome rests on four smaller ones, and in its enormous doorway are brass gates studded with mother-of-pearl. The New Bridge is one of the two that join Stamboul to Galata.



STAMBOUL'S GRAND BAZAAR IS A SMALL TOWN IN ITSELF

The bazaar of Constantinople, the Tcharchi, is one of the most fascinating places in the city. It covers many acres with its narrow, roofed streets, each of which is devoted to one trade. There is the silk bazaar, the jewellers' bazaar, the avenue of the money-changers, the armoury, and bazaars for shoes, confectionery, fruit, china and shawls.

CONSTANTINOPLE THE COVETED CITY

Tower, which stands in the gardens of the former Turkish War Office. We shall have 220 steps to climb, but what is that when at the end of it we have all Constantinople at our feet?

An Arabian Nights' City

Below us lies Stamboul, the oldest and most interesting part of the city, a mass of weather-stained ruins, red-tiled houses with latticed windows, great coloured domes rising from clusters of smaller domes, a forest of minarets, like the masts of many ships, and streets beflagged with red bunting ornamented by the familiar white crescent of the Turks. In these streets we shall see green-turbaned priests, tall-hatted dervishes, peasants from the country, officials from the public offices, and all classes of Turkish, Greek, Armenian and Jewish people.

If we look south-westwards we see the buildings of the city straggle out to little lonely groups, these come at last to a broken line of walls, which used to defend the city in old Greek times. Then, turning westwards, we see a few mosques, far apart, and then an ancient aqueduct which is a relic of the Roman Emperors. Now we will look north to the Golden Horn and let our gaze pass over masses of buildings and groups of ships, to the western end, where slender minarets soar heavenwards from the Mosque of Eyub, the city's most sacred mosque.

The Old Bridge and the New

On the other side of the Golden Horn we see a number of small suburbs, and behind these are green fields and then hills. Following along that shore of the Golden Horn, we come presently to a tottering old bridge, with rusty barges underneath it, and all kinds of small craft tied alongside. A stone's throw away is the new bridge, as thickly crowded with people as a field is thick with flowers in the spring. Behind this are the modern, white buildings of Galata, the commercial centre of Constantinople, rising up a steep hill to the European quarter of Pera, where are the hotels and big shops.

Now look north-east to the Bosphorus. All the way along its shore, as far as we can see, are white mosques with their tall minarets, and green wooded hills and little clusters of pink and white houses. On the water itself are small steamers which ply between the city and the Bosphorus suburbs, and dozens of curious sailing boats, their hulls painted every colour of the rainbow and their sails a reddish-brown.

Now turning south-east we can make out the great white railway station of Haidar Pasha, where the train starts for the interior of Asia Minor; and just alongside are the cypress groves of Scutari. Farther south is the Sea of Marmora, with its pleasant islands, including the summer resort of Prinkipo, and behind this there is a blue mist which marks the great interior of Asia Minor, which is, as it were, Constantinople's garden.

Ancient Splendours of Stamboul

Now that we have glanced over Constantinople let us take a stroll through its streets. Close by the Seraskerat Tower, which we have just descended, is the old Seraglio, ruined and neglected, but with a pleasant park that is a cool place to rest in. The Stamboul quarter is the site of the ancient city built by Constantine the Great, but there are very few traces of it left. When the Turks came they made it their headquarters, and in the centre of it was a beautiful garden in which were situated the sultan's pavilion, the Seraglio Mosque, some magnificent Turkish baths and the Imperial Treasury.

One can imagine the barbaric splendour in which the early Turkish sultans lived, with their wonderful gardens, and their pavilions made of dazzling cloth-of-gold embroidered with precious stones.

There is nothing left of that splendour. All that we may do is to stand within the crumbling walls of the Seraglio and imagine the spectacle we might have seen had we stood there two hundred years ago. It is a place to dream in, but the dreams are not always pleasant ones. They so



THE GOLDEN HORN can be seen in its entire length from the cemetery of the marble Mosque of Eyub. This most sacred mosque, where the former sultans were given the sword of sovereignty, and into which no Infidel has ever been, stands high on a hill shaded by tall cypresses, at whose roots many great and famous Turks lie buried.

CONSTANTINOPLE THE COVETED CITY

frightened the gentle Sultan Abdul-Mejid that about 1855 he left its grim walls and fearful memories for a brighter palace on the Bosphorus.

To see the real splendour of Constantinople we must go to some of its great mosques. The greatest of all is Aya Sophia, which was built as a Christian cathedral and then converted into a mosque when Mahomet II. took the city. Inside there are magnificent pillars of porphyry, columns of split marble in which are natural patterns in blood-red and white; green marble of Laconia; blue marble of Libya; black marble

veined with white; white marble veined with blue; lovely mosaics and dazzling pillars which support a great dome with tier on tier of delicate arcades beneath it.

On the floor there are beautiful carpets from Anatolia, and on the walls we see black shields on which verses from the Koran, the bible of the Moslems, are written in silver. In a corner stands a beautiful mimbar, or pulpit, and at various parts of the building we see groups of worshippers.

Now let us go out into the courtyard. All the big mosques have one courtyard or more, as at Aya Sophia, where



E. N. A.

THE GRANDE RUE OF PERA, A MODERN STREET IN CONSTANTINOPLE

This street, the chief shopping thoroughfare, was burnt down in 1870, and that explains the European look of its buildings. There is nothing noticeably Turkish about the people, either; that is because the red fez, once the compulsory wear of all Turks, is now forbidden. Indeed, many Turks have been hanged for continuing to wear it.



Underwood

"MOVING" BY BOAT ON THE BANKS OF THE BOSPORUS

This curious wooden house of many balconies stands on the water front of Pera, so close to the water that when the inhabitants wish to move it is simplest to do so by boat. The Turkish boatmen are very skilful and can manage the most top-heavy loads. Since autumn, 1925, the fez, which makes this scene so typically Turkish, is not to be seen.

people sit at tables smoking their water-pipes and drinking coffee in the shade of great plane trees. The courtyard of the Mosque of Eyub is one of the most pleasant in Constantinople. It has trees and splashing fountains, and stalls filled with beads, perfumes and silk, and is always crowded with people.

But if we want to see a throng of people we must go to the great bridge which spans the Golden Horn, connecting the European quarters of Galata and Pera with the

Turkish quarter of Stamboul, and having the Mosque of Yeni Valideh—or "of the Sultan's Mother"—at the Stamboul end. If we stand there half an hour, representatives of almost every race in the world will pass by—Turks, Egyptians, Persians, Indians, Europeans of all nations, people from cities, forests and deserts, and from countries known and unknown.

The bazaar is always the centre of life in an Oriental city, and always of interest to a European. To enter this one of



THE GALATA TOWER, 148 feet high, stands on the wall that was built round Galata in the fifteenth century by the Genoese settlers there. The walls have now crumbled into ruin, and the tower would have done so, too, had not the Turks reconstructed it, and, as it over-looked the harbour and town, made it into a fire signal tower. Galata, which is the centre of Constantinople's commerce and foreign trade, is mostly modernised, with wide streets and handsome buildings, but there are still many narrow, Eastern-looking streets such as this one.



IN BAKU the thing that first catches and holds the eye is the dense forest of cypress trees that covers the enormous Moslem cemetery of Bakik Mezaristan. This cemetery occupies over three square miles, and contains literally millions of graves, which are

marked by tall, slim headstones, carved at the top in the semblance of turbans. Upon every grave a cypress is planted at the head and at the foot. The women in the foreground have their faces unveiled a thing that would not have been permitted a few years ago.



FRUIT BAZAAR IN A CORNER OF OLD STAMBOUL

Though the roofed Grand Bazaar is the chief shopping centre of old Stamboul, there are other markets to be found in quiet corners. This one is devoted to the sale of fruit both fresh and—more popular still—candied and preserved in syrups. Dates and figs, plums, raisins and currants, lemons, oranges, tomatoes, melons and grapes are all to be found.

Constantinople we pass through a stone door into the courtyard of a mosque. On our right and left are sellers of nuts, candy, figs and flowers. Squatting by the wall will probably be two old women telling fortunes to peasants.

A few steps farther on we enter the bazaar proper. It is like a maze of vaulted or roofed-in lanes, and seems to be almost a separate town, with every shop like a cell within a honeycomb. If there were not so much colour and such a babble of voices, we might think we stood in the aisle of some old cathedral, lighted by dim, stained-glass windows. But filled with the thousand-coloured merchandise of Asia it is like a scene from a fairy tale. Shafts of sunlight come down

from the roof and fall on rich piles of silks, carpets, red slippers, harness studded with beaten brass, vessels of silver, brass, gold and bronze, heaps of precious jewels, carved daggers, fantastic water-pipes, swords, guitars, filigree necklaces and a thousand other quaint things.

We are a little bewildered as we come out of the bazaars into the sunlit streets. But as the noise dies away, and our eyes again become accustomed to the scenes of the streets, we begin to notice some of the curious characters of the city. One of the first we observe is the "hamal," or porter. He is really a human beast of burden, and carries enormous loads on his back. In order to be fit for his heavy task he is not allowed to tak-

CONSTANTINOPLE THE COVETED CITY

pleasures—like strong drink, for example—which may make him weak. On his back he carries a sort of wooden saddle on which he bears his burden.

Another frequent character is the "saraf," or money-changer, whom we see at every street corner, then there is the "beskjes," who goes about at night banging the stones of the street with a thick staff and calling out to all and sundry. He is a sort of night-watchman. Another quaint character is the "kapudji," Every building has a "kapudji" to guard its doors. Beggars and hawkers we shall find everywhere. Now and then we come upon a Greek or Armenian priest, with long beard and long hair caught

underneath a hat like a tove-pipe. Turkish mullahs we meet at all times, including dervishes, members of a very strict Moslem sect. Some are known as dancing dervishes, because part of their worship includes a curious dance, while others are called whirling dervishes, because they pray by whirling round until they are giddy.

Now let us give a few minutes to the European quarters, Galata and Pera. Galata spreads itself along the north shore of the Golden Horn. It is the centre of Constantinople's shipping and banking, and has all the principal quays of the city, where vessels of every nationality may be seen. But it is not very interesting,

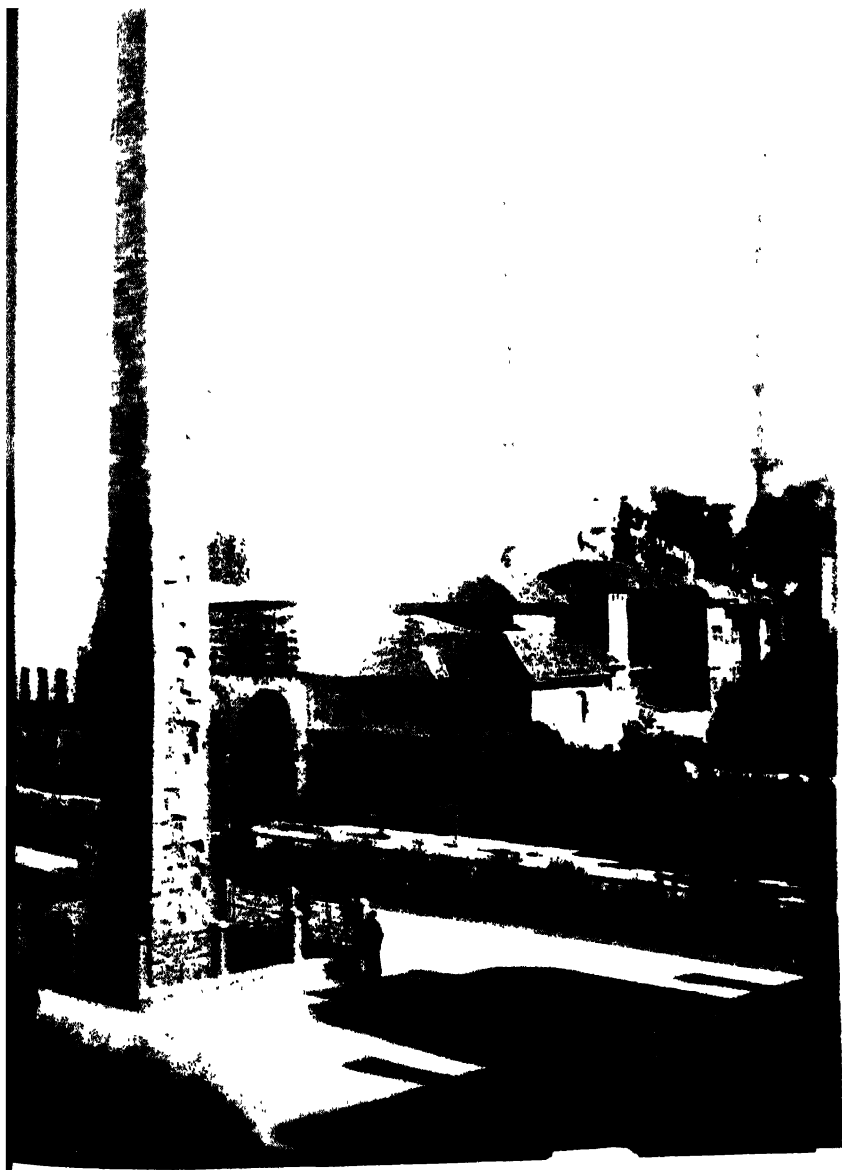


SHOP IN THE TCHARCHI'S STREET OF SILK MERCERS

Although many of the shops of the Grand Bazaar, those for instance built after the earthquake of 1894, are quite like British shops, there are still many where the merchants—Turk, Armenian, Greek, Persian or Jew—sit thus, cross-legged, upon a carpeted platform. Broussa silk, a thick but not very bright material, is the favourite material of the Turk.



MOSQUES AND MINARETS of dazzling marble are found in great numbers in Constantinople. The one on the left is the great Aya Sophia ; the other is the Mosque of Ahmed, the only one of Constantinople's temples that has six minarets. In the foreground is the Atridean or Place of Horses, the site of the old Roman hippodrome.



The nearer of the obelisks is called the monument of Constantine, but it is not known which of the Constantines it commemorates. Only traces of brass nails in the masonry show that it was once covered with brass. The other obelisk was erected in Egypt to Thothmes III. It is named after Theodosius I., in whose reign it was brought to Europe.



CURIOUS PROCESSION PASSES THROUGH THE NARROW STREETS OF STAMBOUL: EIGHT MEN WITH A BARREL
four strong poles and one man takes an end of each. Even the fire engine is carried in this way in the oldest quarters of the city, and the porters who bear it wait before the burning building and make no effort to put out the fire until the owner gives them money to do so.



Hank. Kai

FROM GALATA ON THE WATERSIDE STEEP STREETS LEAD TO PERA
 Constantinople is built on hills and this makes many of the thoroughfares extremely steep. Some of those that connect Galata with Pera, where, before the Turkish government moved to Angora, the embassies were situated, rise so abruptly, that they are made in wide shallow steps. This makes wheeled traffic quite impossible.

though there is a fine old tower, which we illustrate on page 372.

Pera is more interesting because it contains all the good shops, hotels and restaurants of the city. It is rather French in appearance. The names of the hotels and shops are nearly always in French and even the streets are given French names. Almost every language is spoken here, and members of almost every race are met.

A trip up the Bosphorus will give us a final idea of the beauty and variety of Constantinople. The Bosphorus is one of the most beautiful waterways in the world. Along its shores are palaces and villages, cobbled and red-tiled. Here we come upon a little forest, and there a Moslem cemetery. Huge fortresses, like that of Rumeli Hissar, rise from the water's edge, and then, at Therapia, we see the summer residences of European ambassadors.



THE CASTLES OF EUROPE AND ASIA are two historic and ancient fortresses, built a few miles north-east of Constantinople, which face each other across the narrowest point of the Bosphorus, here known, from the swiftness of the current, as the Devil's Stream.

Anatoli Hissar stands on the Asiatic shore and Rumeli Hissar upon the European. Rumeli Hissar is said to have been built in six days by Mahomet, and its ground plan forms the characters of his name. It has four towers, the highest being called the 'lanissaries' Tower.



Cobler Knos

THE BIYUK JAMI, or Great Mosque, is one of the eight mosques whose marble walls and slender minarets against the darkness of the cypress trees make the suburb of Scutari so beautiful from the sea. Scutari, the part of Constantinople that is built on Asian soil, used to be called Chrysepolis, which means the Golden City.



THE DUSKY QUEEN OF MASSA RIDES ABROAD IN HER SUN-SHADED HAMMOCK

Alfred

Queen Messi rules over the people of Massa in Sherbro, an island and a district in the west of Sierra Leone. She is riding in state to a political meeting, crowned, curiously enough, by a top-hat, and is preceded and followed by her dancing girls. Sherbro is one of the secret societies—the Porro for the men and the Bundu for the women.

British Africa from West to East

FOLLOWING THE FLAG ACROSS THE CONTINENT

Very few of us could give, off-hand, a list of the British possessions in Africa, remembering especially the changes in the map made by the Great War. In this chapter, however, we shall learn a good deal about these, as we are to take a journey from Gambia, on the Atlantic coast, right across the great continent to the Indian Ocean and then down to Northern Rhodesia. The map will show us that the territory under British control does not form the unbroken belt from west to east which it does from north to south. In these far-stretching lands we shall find many and strangely different races of people are living under the protection of the Union Jack.

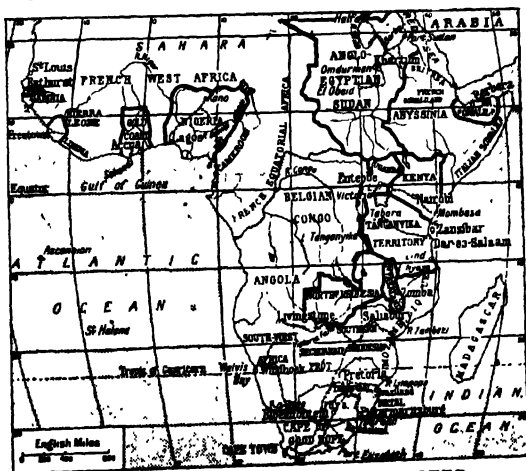
IF we look at a map of Africa only fifty years old we shall see that the central zone appears to be inhabited only round the coast; the rest has very few names, and some parts are blank. The land is vast. The early explorers lost their way in tropical forests, or died of disease, or were killed by savage beasts or still more savage natives. Therefore tropical Africa was thought of only as the land of Nature's splendour and cruelty, of gold and elephants, slaves and cannibals. The map of to-day shows us two groups of lands, west and east, lying between the tropics, under the British flag. The group to the west is the older, so we will start with Gambia, the earliest of our African possessions.

Nearly 500 years ago, Portuguese sailors exploring the coast found here a wide river with a few islands in its estuary. The first British ships arrived in 1555, and then James I. granted a charter to a trading company called the Merchant Adventurers of London. These men built a fort on an island which they named St. James' Isle, and so started the first little settlement. To-day the British colony has moved to St. Mary's Island, where there is a town, Bathurst, with the most modern comforts and enjoyments. On the mainland, on both sides

of the river for over 200 miles, lies a strip of country from 10 to 60 miles wide, which, in 1888, became a British Protectorate—that is to say, it is a country occupied by natives under native rulers, but Great Britain is responsible for seeing that the native princes rule justly, and for protecting the country from foreign attack.

Suppose we go by steamboat right up the river. We shall pass first through dense forests of mangroves, a tree of the swamps. Then the mangrove forests thin out, and here and there in the swamps rise higher patches of cultivated land.

Finally we come to wonderfully fertile plains over which roam great herds of cattle—the native counts his wealth by cattle, not by money—and other plains



PLACES WE VISIT IN THIS CHAPTER



KENYA COLONY a man buys his wife from her father. This young Kikuyu man had to pay eight cows, ten goats and twenty jars of native beer for his bride.



NIGERIAN CHILDREN wear few clothes, even when dressed, like these little girls, in their best. Their heads were bound when they were babies and made this unnatural shape



THE MARKET OF FREETOWN, SIERRA LEONE'S CAPITAL

Freetown, which was founded in 1788 as a home for freed slaves, is now a very busy city with a native population of over 33,000 and the best harbour of all Africa's west coast ports. Nearly every woman who has anything to carry balances it on her head. This practice has given the African native an upright and graceful carriage

given up to the cultivation of the nut which we call the "monkey-nut." When the flower of this plant dies, the seed-pod pushes itself into the ground, ripens there and has to be dug up; so it is called the "ground-nut."

In olden days Gambia exported slaves, elephant tusks, wax, rubber and palm kernels, but now the natives are finding that growing the ground-nut pays so well that, apart from millet and rice, they do not trouble much about other products.

The natives are real negroes, with black skins, flat, broad noses, woolly hair and thick lips; they wear next to no clothes, and, apart from a few mission schools, have no education. They are pagans, believing only in magic and witch doctors.

French territory separates the British West African settlements from each other, so we must sail along the coast to reach Sierra Leone, which is nearly as large as Scotland, with a population less than a quarter that of London. The colony



McCann

MAHOMEDAN SCHOOLMASTER OF BIMBUKU, A VILLAGE OF ASHANTI

Ashanti is the name given to the middle part of Gold Coast Colony, which lies between the Gold Coast proper and the Northern Territories. It is called after its fierce warlike people. Like their near relatives, the Fantis of the coastal districts, the Ashantis are mostly fetish worshippers; but some have been converted to Christianity, and some to Mahomedanism.



GAMBIA'S KING, Archibong II., has a dignity that well suits his regal state. His royal crown is of gold studded with precious stones, of velvet and of ermine, and has indeed a fairly close resemblance to the Imperial Crown of Britain. In contrast to the richness of crown and collar and brocaded skirt are the carpet slippers that cover the royal feet. E.S.A.

THE KING OF CAMEROON
FONDONG MANAGES
TO RETAIN A REALLY ROYAL DIGNITY



THE KING OF CAMEROON, unlike the native King of Gambia, has allowed no foreign custom to influence his robes of state. His enormously full, short skirt and tall patterned cap are purely African, and so is his carved and painted throne. King Basu Fondong manages, in spite of his queer clothing, to retain a really royal dignity.



QUEER GOD WORSHIPPED BY THE FANTIS OF WASSAW

The Fanti people, who live in Gold Coast Colony, are great fetish worshippers—that is, they believe that powerful spirits inhabit certain striking natural objects or such images as this, which is worshipped in a village of Wassaw district. These spirits, or fetishes, unless they are appeased, will, the Fantis believe, do them great harm.

consists of one or two islands and a peninsula. All the West African coast was connected with the slave trade; for three centuries natives were captured or bought here and taken away into slavery by European nations, Britain included.

About 150 years ago British people began to feel that this cruel trade was wrong, and in 1788 a British man bought land on the peninsula from the native king, and made on it a settlement which he called "Freetown," as a place of refuge for liberated slaves. Later on British

merchants settled here, and to-day Freetown, which is the capital of Sierra Leone, is a large, prosperous town, with schools and a university. Its harbour is the best on the West African coast.

The country inland became a British Protectorate in 1896. As the rivers are not navigable for any great distance, we shall have to go up country from Freetown by rail, and if it be December or January we shall be much bothered by the Harmattan, a dry dust-laden north wind blowing from the Sahara desert.

BRITISH AFRICA FROM WEST TO EAST

We notice that the natives are not all black. Several of the tribes to the north and east are fairly light-skinned. Some of the northern tribes are Mahomedans, but the majority of the natives are pagans. We shall see them all very busily at work in the fields and forests, tending their cattle or their plantations of ground-nuts and rice, cassava—from which we get tapioca—and kola-nut trees, or collecting the natural products, mainly palm kernels and rubber.

From Sierra Leone the steamer must take us some distance south and east to

the Gold Coast. This settlement was started with forts erected along the coast by various European nations, but Great Britain bought the land from the other nations in 1876, and the Gold Coast became a British colony. Frequent quarrels with Ashanti to the north, particularly concerning human sacrifices, led at last to war with that country, and finally Prempeh, the king, was deported, and in 1901 Ashanti was annexed, while the country still farther north, which is now known as the Northern Territories, became a protectorate.



DRESSING-ROOM OF A YOUNG LADY OF THE GOLD COAST

The Fantisi are said to be the most intelligent of all the negro tribes, they are peace-loving, too, and are occupied in fishing from canoes and cultivating the ground. Their skin is chocolate coloured, and they have the negro's characteristic woolly hair. This young woman arranging hers in the most popular fashion—in two stiff horns.



SWAHILI WOMEN of Zanzibar take great pains over their appearance, painting designs on their cheeks and foreheads and dressing their hair very elaborately. Their long-toothed comb is very like the one used by the Fiji girl on page 173. Because they are a mixture of two races, one girl may have woolly hair, while her sister's is silky and straight. E. S. A.



IN ZANZIBAR and on the mainland near by live the Swahilis, or "coast people." They are the descendants of Arabs who long years ago came trading to those parts and married negro inhabitants. Their language, which is Bantu mixed not only with Arabic, but with Persian, Indian and various European ones as well, is the chief tongue of East Africa.



IN ASHANTI, THOSE WITH GOODS TO SELL AND THOSE WHO WANT TO BUY FLOCK TO KUMASI'S MARKET
 Kumasi, the capital of Ashanti, in Gold Coast Colony, is a very god, Tando. Kumasi is now the terminus of a railway from different place now from what it was in the days of the slave trade, Sekondi, and trades, not in slaves, but in cocoa, kola nuts, rubber and for the Ashanti people were then the terror of all West Africa. Those cattle Gold is mined near by, and formerly all the gold dust that slaves they could not sell at once they offered as sacrifices to their fell to the earth in Kumasi's market belonged to Ashanti's king.



A HORSEMAN OF THE DESERTS IN SOKOTO, NIGERIA

Sokoto is the north-western province of Nigeria, where it touches the Sahara desert. This dark-skinned cavalryman is wearing a typical "face-cloth," which he draws up over mouth and nostrils to keep them free from the dust of the desert. His enormous shield is made of ox-hide, to his reins are tied charms to protect him against magic.

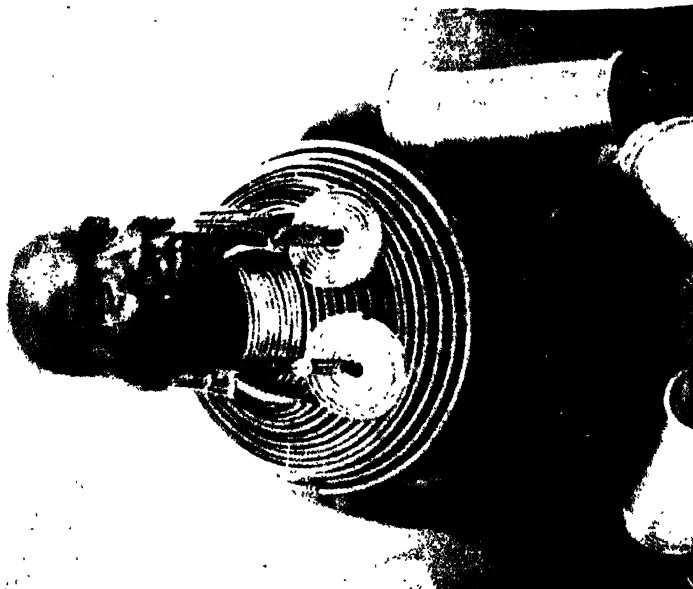
When the people found that the new rulers were more just than their native kings they settled down quietly. Even Kintampo, an important town farther north, which was the central slave market of this part of the world, became peaceful, and decided to trade in kola-nuts instead of slaves.

The people, especially the Ashanti and their relatives, the Fanti, are chiefly of a warm, dark brown colour. There are high schools and training colleges along the coast, but elsewhere the natives are mostly uneducated and heathens. They are very loyal to Britain and during the Great War it was not necessary to leave soldiers

here to keep order. King Prempeh was allowed to return to end his days quietly in his own country in 1924.

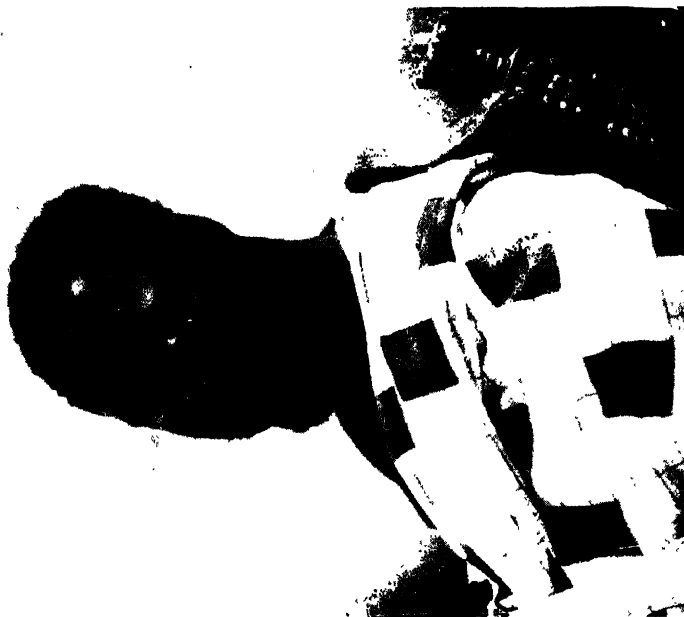
If we land at Sekondi we can take the railway to Kumasi, the old capital of Ashanti. Near here is found the gold which gave the Gold Coast its name.

In towns the people find employment making baskets, pottery and cloth, and working in leather and metals. Most of the big towns are linked up by telegraph, and where the railway ceases motor roads take its place. Gold, valuable timber, kola-nuts, grain, palm oil and palm kernels are exported, but about thirty years ago someone started growing cocoa, and now



Easton

A MASAI WOMAN carries many pounds of iron wire round her neck and arms. The lobes of her ears are stretched, till they hang over her shoulders, with many ornaments and rings, which she may not take off during her husband's lifetime. Her head is shaved.



McGinn

KING PREMPEH became the ruler of Ashanti in 1886, but he gave so much trouble to the British that he was deposed ten years later, and kept a prisoner at Elmina and in the Seychelles. In 1924 he was allowed to go back to the Gold Coast as a private citizen.



THE DERVISH OF THE SUDAN is a Mahomedan and a very fanatical one. Thirty different orders of dervishes live in Egypt, Arabia, Turkey and India. There are the howling dervishes, the dancing dervishes, and on page 364 we show some whirling dervishes. This wandering dervish carries a beautifully polished half gourd as a begging-bowl.



THEY SELL MATS MADE OF PALM FIBRE IN THE MARKETS OF BORNU, NORTH-EASTERN NIGERIA
Bornu is another of the northern provinces of Nigeria, being separated from Sokoto by Kano. It is a very dry and very hot plain, but as water can generally be reached by boring wells, it is fertile, and yams, ground-nuts and beans, as well as fibre mats, are brought on the horse of ox or donkey to its many markets. The mats are very finely plaited and are often ornamented with beautiful, coloured designs. The people of Bornu are such keen traders that they sometimes hold



THE HOUSE OF JUSTICE AT KANO, CAPITAL OF KANO, NIGERIA

All the houses of Kano are built, as this Court House is, of mud, even the Great Mosque and the Emir's palace, which covers about thirty acres. The houses are decorated by strange patterns, drawn on the mud before it is baked as hard as stone by the sun. There is a high, mud wall all round the city, and outside that is a deep ditch.



SELLING HERBS TO CURE ALL ILLNESSES IN KANO'S MARKET PLACE

Kano was an important trading centre centuries ago, and it is so still to-day. Its people used to trade by caravan across the Sahara with the Moors of Tripoli, from whom they got their Mahomedan religion and their custom of wearing flowing robes. Now the town is the chief market of a large district and is connected by railway to Lagos.



2 N. A.

so that only their eyes and nostrils break the surface ; indeed, they spend most of their time under water, coming to the top to breathe every three or four minutes. Hippopotamus teeth provide ivory and the hide is used for whips ; its flesh is eaten by the natives.

HIPPOPOTAMI are found nowhere but in tropical Africa, where there are two kinds—the pigmy about six feet in length, and the common, one which in size is second only to the elephant. Here we see four of the great beasts in the Zambezi. They lie under water

BRITISH AFRICA FROM WEST TO EAST

the cocoa industry is fast becoming the main source of prosperity. Half the world's supply of cocoa is grown here.

Rejoining the boat at Sekondi we will proceed eastwards, passing Cape Coast Castle, the original British settlement, and Accra, the present capital, which now has a wireless station, and halt at Lome, just beyond the boundary. This is the entrance to Togoland, which before the Great War belonged to Germany. It is a long, narrow strip of country, joining on to the Gold Coast, and is about the size of Ireland. It is a very rich and fertile land, and in addition to palm oil and kernels its chief export it grows cotton, maize, cocoa, rubber and sisal hemp.

On the declaration of war in 1914 the British and French marched into Togoland, and the Germans, after blowing up their important wireless station at Kamma, surrendered unconditionally. In the final settlement the administration of Togoland was entrusted by the Allies to France and Great Britain together, Great Britain taking the northern part. We will not stop in Lome or the little town of Togo farther inland, but will go on eastwards till we come to Nigeria, the largest of all our West African possessions.

Where Men were Marketed

Nigeria is almost a square-shaped country, nearly four times as large as Great Britain, and with a population two and a half times as large as that of London. Half-way up the western boundary it is entered by the River Niger, which flows along south-east till it is met by the Benue River coming from the eastern boundary.

All Nigeria to the north of these two rivers is known as the Northern Provinces. The two rivers together form a stream two miles wide, which flows steadily south until about 140 miles from the coast, where it forms a delta, breaking into numbers of little rivers and lagoons.

At the extreme west is Lagos. Thus, until Great Britain captured it in 1851, was a famous slave market, supplied by the province of Benin. To-day it is the

capital and the greatest trade port of Nigeria. Apart from Lagos all Nigeria has been acquired by Great Britain only during the last fifty years.

We can travel up the river in a large steamer as far as Jebba, or we can go there from Lagos direct by rail, and, thence entering the Northern Provinces, we can continue north by rail as far as Zaria and Kano. Whichever way we go we shall pass through dense tropical forests, where mahogany, ebony, cedar, rubber, cork, palm and kola-nut trees flourish. Then come others, gum, locust bean, wild date palms and shea-nut trees. Shea-nuts yield a buttery fat which is used by the natives for food, and which is also exported to Europe for the manufacture of soap, candles and pomades.

Lost Kingdom of the Hausa

Presently the forests diminish and little clearings are seen where yams, maize, plantains, guinea corn and cocoa are grown; the bread of the country is made from guinea corn.

The Northern Provinces grow ground-nuts, shea-nuts, palms, rubber and gum trees, and rear herds of sheep and cattle, while dogs, goats and fowls are domesticated, and, in the most northern provinces, camels are used for transport. In this region the soil is poor, for the Sahara is drawing near. The natives of the north belong to the Hausa and Fulani tribe. The Fulani originally came from the eastern part of Africa. The Hausa, who once possessed all northern Nigeria from Lake Chad to Sokoto and beyond, are black, intelligent negroes. They are Mahomedans by religion.

A Tableland Tower of Babel

From Zaria we can, by means of a small mountain railway, climb the Bauchi plateau, which is a lofty tableland of granite, 150 miles long by 100 miles broad. The sides are sheer, and until the railway was built it was inaccessible except by three tiny and easily guarded passages.

The inhabitants are of many races, from jet black to light-coloured people with



§ NATIVES OF NORTHERN NIGERIA SHOW THAT BRICKS CAN BE MADE WITHOUT STRAW

This photograph shows the first stage in making a Nigerian mud house. The red clay soil is moulded by hand into rough balls which are put in the sun to get hard—they are the bricks. Then more men are busy on a tapering wall that will surround a group of houses, for house walls are made as thick as that at the top as at the bottom.



THATCHING THE ROOF OF A ROUND MUD HOUSE IN NUPE, NIGERIA

The tall roof of this circular house projects over the walls and makes a veranda upheld by carved posts. The Nigerians are very clever thatchers and make perfectly water-tight grass roofs like this. They finish off the top with a plumy tuft. The Nupes, who live in central Nigeria, are an intelligent tribe, who were once slave raiders.

almost European features. There are 164 different languages spoken on the plateau. Now that the tin, in which this huge granite rock is so rich, is being mined, the people will get work, and so prosperity.

Although roads are being made in all directions, there are places in Nigeria where no white man has ever been, and other districts, difficult of access, where slavery and cannibalism are still practised. Near the Benue River there is a tribe, the Munshi, who are quite unconquered and are dreaded on account of their poisoned arrows. In the western part of the Southern Provinces we find the Yorubas, a brave, warlike, Mahomedan people, but for the most part the Nigerian natives are black and pagan. Only about six per cent of the children get any kind of education.

Adjoining Nigeria, and running from the coast to Lake Chad, is a strip of country known as Cameroon. This, like Togoland, belonged to Germany before the War. It was surrendered in 1916, and later it was handed over to France and Great Britain

to administer. Some of the native tribes here are light coloured, with almost European features and well-shaped hands. They are a portion of the great Bantu family, a people of many races, speaking practically the same tongue, found mostly in East and South Africa, from about Victoria Nyanza almost to Cape Town. Near the coast Cameroon has plantations of rubber and cocoa laid out by the Germans, but apart from these the country, though fertile, is undeveloped.

French and Belgian territories separate us from British East Africa, so we shall suppose that we continue our journey by aeroplane. The countries adjoin each other with one exception, that of British Somaliland, a strip of land lying on the coast of the Gulf of Aden, so we will fly on over the Sudan and Abyssinia and visit this isolated country first. The natives here are not negroes, but claim to be the descendants of Arabs. They are a tall, fine, active race, very dark, and in feature they somewhat resemble the ancient Egyptians. They are a fierce, lawless



HOW FLOODS ARE BRIDGED AND GOODS ARE BROUGHT TO MARKET IN THE JUNGLES OF SOUTHERN NIGERIA
This photograph takes us to Calabar, in south-east Nigeria, and shows us a procession of native porters carrying bags of rice to the market of Aro Chuka, near the Cross River. Some motor roads have been built near here, but as, in the rainy seasons, all the many rivers and creeks get flooded and there are great stretches of swamps, enough roads cannot be made. Goods have still to be carried by the natives over bridges that no vehicle could cross. Ebony was the chief product of this district, but it has all been exhausted.

BRITISH AFRICA FROM WEST TO EAST

people, many of them fanatical Mahomedans, who have given Great Britain plenty of trouble since the Protectorate was established in 1884.

The trade of the country is in the hands of Arab and Indian merchants on the coast. The natives occupy themselves in breeding herds of camels, goats and sheep, or growing crops of millet, coffee and indigo, and collecting the fragrant gums, myrrh and frankincense, the latter being the chief ingredient of incense, for which this land has always been famous. The British garrison stationed here consists of a camel corps 400 strong

Flying back to Khartum, the capital of the Anglo-Egyptian Sudan, we recall the heroic death of General Gordon, defending the town against the Mahdi and Kitchener's

subsequent victory over the Mahdi and his army at Omdurman. After this, Egypt entrusted Great Britain with the task of governing the Anglo-Egyptian Sudan, a country three times as large as Egypt itself. For over 1,400 miles of its course the Nile flows through the Sudan and largely influences its cultivation.

The northern provinces grow crops of millet, the chief food of the natives, also ground-nuts and dates. In the three provinces of Halfa, Dongola and Berber there are over 1½ million date-palms. Moreover, the Sudan is rich in cattle, sheep and goats. Camels are in use throughout the greater part of the country.

Crossing to the White Nile, we journey south by steamer and pass through a fertile belt, from which is obtained,



THE UMBRELLA SHOWS THAT A RICH MAN LIES BURIED HERE
The Ibibios are a very wild tribe of bushmen who live on the Calabar coast in the south-east of Nigeria. They hide their houses deep in the jungle, but build, in the open, conspicuous tombs of painted wood thatched with palm leaves. Here they put all kinds of bottles and pots for the use of the dead man's spirit.

BRITISH AFRICA FROM WEST TO EAST

among other things, the world's supply of gum arabic. Presently the Nile is joined by the Bahr-el-Ghazal from the west, and here we enter a different kind of country. Low-lying and watered by many tributary rivers, its soil is the richest in the whole of the Sudan, but the natives are indolent, and content themselves with collecting timber from the tropical forests.

It is thought that the southern Sudan is the home of the true negro race, and certainly the majority of the natives here to-day are pure black negroes of the most primitive type, some even being cannibals. They are a great contrast to the people dwelling in northern Sudan, who are mainly Arabs, Nubians or mixed tribes.

At Rejaf the Nile becomes unnavigable, so we must march on foot to Numile, on the Uganda border. The distance is 93 miles, and we can only walk in the cool of the early morning. We cannot get even a donkey to carry our luggage, for the disease-bearing tsetse fly swarms in all parts of this district and kills off all the transport animals.

Entering Uganda we are in the region of the Great Lakes. A steamer will take us by river to Albert Nyanza—Nyanza means "lake"—97 miles long, thence by motor, steamer and railway we reach Victoria Nyanza. This is larger than Ireland, and is, in fact, the second largest lake in the world. Captain Speke



E. N. A.

BISHARIN CARAVAN MEN REST AT THEIR JOURNEY'S END

The Bisharins live in the Sudan just north of the Hadendoa, and though they are mostly nomads, or wanderers, they have a permanent centre at Assuan. They keep flocks of sheep and herds of camels, and collect senna leaves. These leaves and also ostrich feathers and ivory and gum arabic they bring to market by camel caravan.



Sudan (Govt. Ra

A "FUZZY-WUZZY" OF THE ANGLO-EGYPTIAN SUDAN

This fine, fierce-looking man is a Hadendola, who lives in the hilly Nubian desert south of Suakin. He looks warlike enough with his spear and dagger and shield, and it is no wonder that men of his tribe make very good soldiers. His great mop of hair has earned for his tribe, as it has for the Baggara people, the name of "Fuzzy-wuzzy."



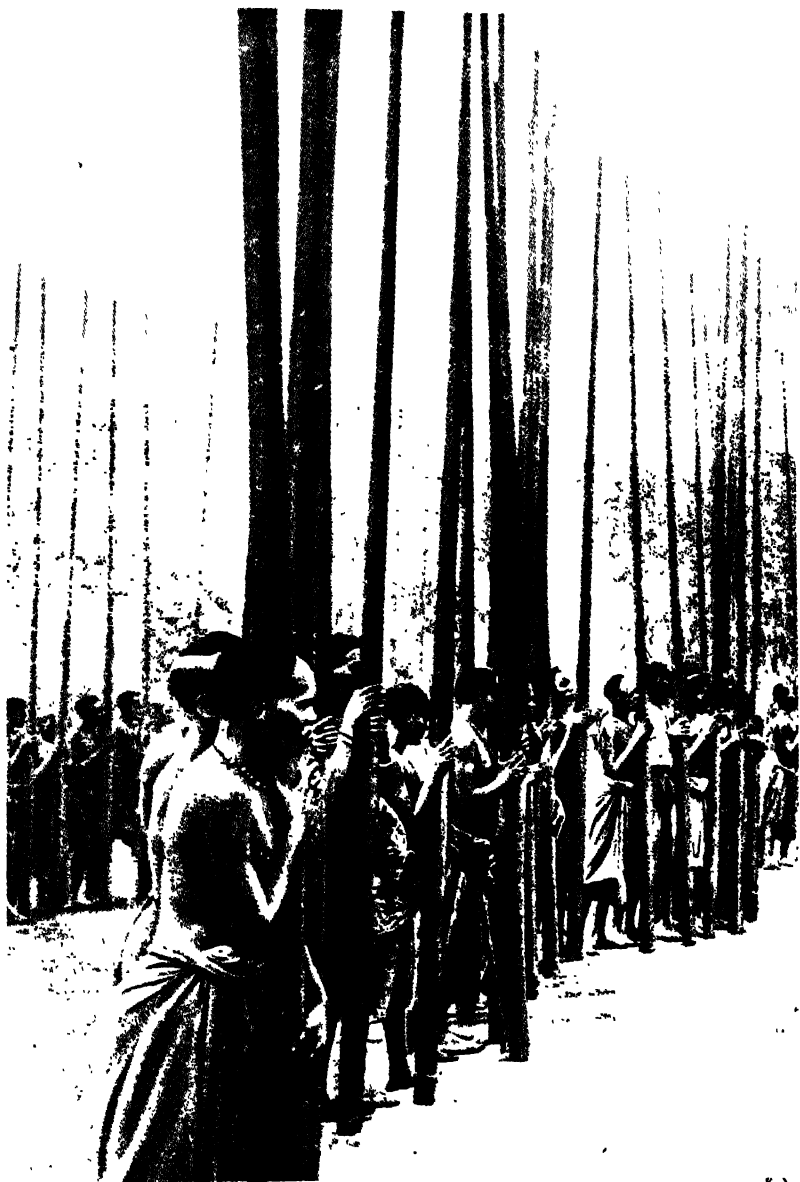
SOMALI WAR DANCE THAT LOOKS LIKE A DEADLY COMBAT

The Somali people are mostly nomad herdsmen, keeping great herds of cattle and goats and sheep, though some are fishermen and some farmers. They are very excitable and very brave, and make good soldiers. These two photographs show their war dance, called Boroma-Boromsi, performed by two fighters and a group of dancing spearmen.

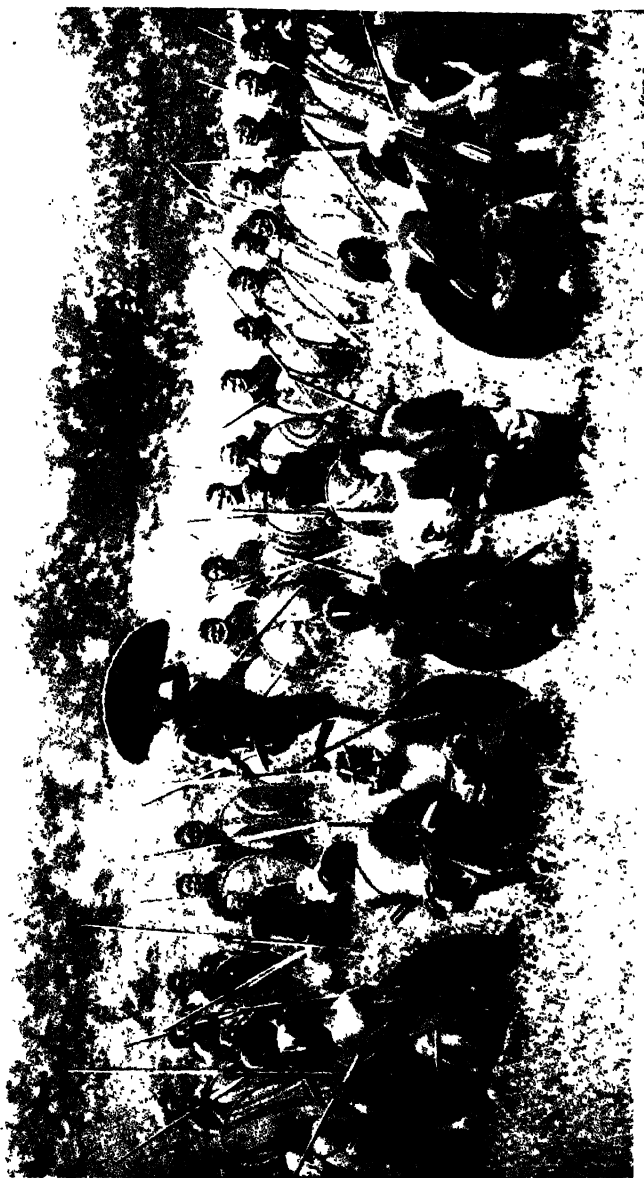


THE FIGHT IS FINISHED WHEN THE SHIELDSMAN FALLS

One of the combatants is armed with a cutlass, the other protects himself with a shield, and a fierce struggle takes place. At last the shieldsman falls to the ground and begs for mercy, the chorus chanting "Boromsi Boromsa." The swordsmen asks whether he shall kill his opponent, who, as it is only a dance, is always allowed to go free.



THEIR GIGANTIC POLES ARE SIGNS THAT CIVILIZATION IS COMING
One of the first things the white man does, when he has explored a new country and wishes to open it up to trade, is to link it with the nearest large port by telegraph. This photograph was taken in Tanganyika territory, and shows native porters carrying the tall slender posts of cast-iron that are to support the wires.



WARRIOR-HUNTERS OF THE MASAI TRIBE DANCE TO CELEBRATE THEIR PROWESS AS HUNTERS OF THE LION
 The Masais of Kenya are a very warlike race, and until quite recently the young men would go out in parties, armed with spear and sword, and would kill any man they met for the pleasure of doing so. They would never, however, kill a woman or a child. They live in a country infested by wild beasts, but they hunt only the lion. They say that a lion will never charge at a man who stands in front of him without flinching, and indeed they always seem successful in killing their prey, which they attack from all sides with their spears.



WHEN THEY ARE TIRED, KENYA BABIES ARE CARRIED PICK-A-BACK

The Kikuyu tribe live in Kenya Colony, near Nairobi, the capital. They are a short people but very strong, and indeed the women need to be if they carry such large infants as these for any distance. The people of the Kikuyu race are peace-loving, light-hearted and tractable, very different from the bloodthirsty Masais.

discovered it and found that in it was the source of the Nile.

Uganda is as large as the British Isles. The natives belong to many races, but they are for the most part dark chocolate-coloured negroes with woolly hair. The most civilized are the Batangas, who have been converted to Christianity. They are a tall, well-built race, and make clever

iron-workers and carpenters. Many of them are musical and play on a variety of instruments.

Bananas, which are plentiful, form the staple food of the natives; cotton-growing is the chief industry, but coffee, rubber, rice, chillies and sugar are also cultivated. Uganda has no coast, so most of her commerce with the outer



IN TANGANYIKA TERRITORY THE HUNTSMAN'S DANGER IS NOT OVER WHEN HE HAS KILLED HIS QUARRY
 Lake Tanganyika is more than a thousand feet deep in most parts upon it in narrow, unsteady dug-out canoes. These men have been and yet the natives who live on its shores are not afraid to travel hunting along its game-haunted banks and have caught a leopard.



NATIVES VOYAGE PERILOUSLY IN CANOES ON LAKE BANGWEULU'S SHALLOW, SWAMPY-MARGINED WATERS
 The dug-outs they use in northern Rhodesia are smaller than those of Lake Tanganyika, but then, as the reediness of its water shows, in the same way as that shown in the making in page 106.

BRITISH AFRICA FROM WEST TO EAST

world has to go by the Uganda Railway, which we will now take. This railway is not in Uganda at all, but runs from Victoria Nyanza right through Kenya Colony to Mombasa on the coast.

Kenya is more than twice the size of Great Britain, and its population is about one-third that of London. It is a varied country of barren stretches, hot, fertile plains and more temperate highlands. The seat of government, originally at Mombasa, has been transferred to Nairobi. This town, through which the train presently passes, is a flourishing place with electric light, telephones and motor cars. Here and in the surrounding highland country are found the only places suitable for European settlers; only natives can thrive in the tropical lowlands.

A Zoo Seen from the Train

The country is full of big game, and when the train leaves Nairobi it crosses the Athi plain, where one sees zebras, antelopes, wild ostriches and occasionally lions. The native tribes are as varied as the country, some living as they did a thousand years ago, while within a hundred miles of these one may meet a native in European dress, spectacles on nose, riding a bicycle!

The Masai of the south-west are an interesting tribe. When a Masai boy is seventeen years old he is usually six feet in height. For the next three years he is fed on milk, blood and half-raw beef steaks, and is trained rigorously. At the age of twenty he is a perfectly developed warrior. All Masai when grown up are a dull chocolate-brown colour, but as newborn babies they are yellow.

Mombasa has the finest harbour on the East African coast. Here we will take ship to the south for the island of Zanzibar, which, with the smaller island of Pemba and a strip along the mainland opposite, has been the Protectorate of Zanzibar since 1890, and to obtain which Britain, among other concessions, gave Heligoland, an island in the North Sea, to Germany. The protectorate is ruled by a native sultan, subject to the

British Government. His people, though comprising many races, are known as Swahilis and speak one tongue.

The Swahilis of the islands depend for a living mainly on growing cloves for the spice markets of the world, though they are now starting to cultivate coconut palms. Once troublesome, these people, who are mainly Mahomedans, are now very loyal subjects, and the present sultan attended the coronation of King George.

Where While Men cannot Live

We now cross to the mainland strip at Dar-es-Salaam, the seat of government and main port of Tanganyika Territory, which before the Great War was German East Africa. After the war it became a British protectorate.

It is about the size of Nigeria. The native population is thickest in the north-west, round the shores of Victoria Nyanza, the southern half of which is included in Tanganyika Territory; but the country is not suitable for occupation by Europeans, except on the Dringa plateau in the south and the high land adjoining the slopes of the snow-capped Kilima-Njaro.

The country is wholly tropical and produces ground-nuts, coffee, cotton, grain, rubber, coconut palms, camphor trees, etc., but two-thirds of it are infested with the dreaded tsetse fly. Ivory is a considerable source of wealth. Gold, mica and tin are found. The railway runs from the coast to Victoria Nyanza, and caravan routes are used by the camel trains.

Where Livingstone Explored

If we go south we strike Lake Nyasa, and the Nyasaland Protectorate around its western and southern shores. This little country is about one-third the size of England, and, with Northern Rhodesia and South Tanganyika, reminds us of Livingstone, the discoverer of Lake Nyasa and the famous Victoria Falls.

Blantyre, the capital of Nyasaland, is named after Livingstone's birthplace in Scotland. The natives, many of whom are Christians, are progressive people and value education. There are more than



Central News

ON THE EASTERN SHORE OF GREAT LAKE TANGANYIKA

Lake Tanganyika lies between British territory and Belgian. It is 450 miles long, but only about 40 or 50 miles broad. There are mountains round a great part of it, but in some places grass lands, or savannas, slope down to it, as here, where a tribe of natives have built themselves a village of houses made of reeds.



E. N. A.

STALKING THE CLOVES THAT GROW ON THE ISLE OF SPICES

The clove-tree was brought to Zanzibar from the Moluccas only in 1818, and yet that little island and the island of Pemba now grow seven-eighths of the world's supply. Women climb the trees and pick the flower buds; they stalk them, and dry them for a few days, and then they are like the cloves we put in our apple-pies.



WARRIORS OF A RULING TRIBE ON NORTHERN RHODESIA'S FRONTIER

On the north-eastern frontier of Northern Rhodesia, where it borders Tanganyika Territory, lives a Bantu tribe called the Awemba, who, until the British came, were lords of their district and ruled all other tribes very effectively. These warriors, with their feather head-dresses, their spears and ornate shields, are in full battle array.

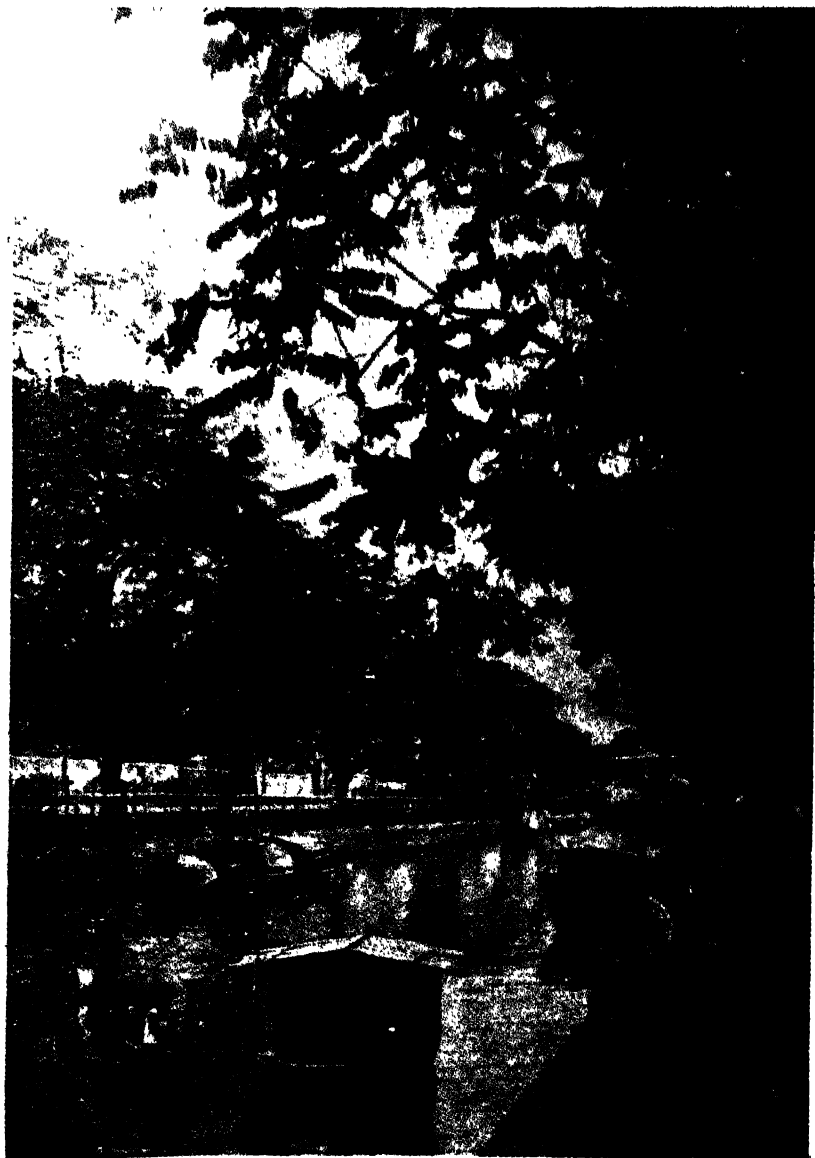
125,000 scholars in the Mission schools. Tobacco growing is the main industry of the country, but cotton, tea, rubber, coffee and maize are also cultivated.

Northern Rhodesia, to the west of Nyasaland, was not definitely taken over by the Crown till April, 1924. The unfinished Cape to Cairo Railway passes through it from south to north, and most of the population is settled along the railway line.

In the north-west, in spite of the trouble with the tsetse fly, cattle are reared extensively, and exported, as many as 1,200 head per month, to feed the natives working in the mines of the

Belgian Congo. Tobacco, coffee, cotton and maize are grown.

The country has great mineral wealth. Gold, copper, lead and zinc are all found there, but owing to want of capital the mines are undeveloped. The same remark applies to the considerable forests and the areas where rubber grows wild. The natives are intelligent and are rapidly getting elementary education. At the capital, Livingstone, in the extreme south, we will take our leave of British East Africa, with the thunder of the Victoria Falls just over the boundary in our ears. But that is another story and belongs to British South Africa.



BOATS ON A CANAL IN BANGKOK, THE CAPITAL OF SIAM

Canals and rivers largely take the place of roads in Siam, as the latter are few and often flooded. Bangkok has many canals, some of which, like the one in the photograph, have their steep banks faced with stone to prevent them falling in. The boats are not moored to the side, but are tied to long poles stuck into the bottom of the canal.

Mighty Waterways Made by Man

CANALS THAT SEVER CONTINENTS AND LINK OCEANS

Some of the greatest achievements of man have been the making of the great waterways, such as the Panamá and the Suez Canals. In ancient times the Chinese, Persians and Egyptians all had their canals, though most of these were intended to water the thirsty land and were not intended as waterways for boats. I can yet recall the warm glow of admiration I felt for the men who construct these great canals when I walked along the bottom of one of the tremendous Gatún locks of the Panamá Canal a month or so before the waters of the seas were let in and ocean liners and great battleships could float over the ground upon which we had so recently stood.

As a waterway made for carrying goods from one point to another, or as a connecting link between two or more important places, the canal has existed from ancient times. It was in use in Egypt and Mesopotamia long before the Christian era, although in those early days it was designed chiefly for irrigation. The people of those countries, however, soon found that such a piece of water could be used for travel and transport, and the value of canals for carrying goods was quickly realised. This was especially the case where the course of a river was interrupted by waterfalls, shallows or rapids, as for the passage of boats it was necessary to cut a new waterway from above and below these unnavigable points.

It is known that navigable canals had been made some thirteen hundred years before Christ. **Rameses II.** of Egypt is recorded to have cleared out or deepened an old canal which

connected the Bitter Lakes with the town of Bubastis. Centuries later another Egyptian king made an attempt to join the Nile and the Gulf of Suez by means of a canal, but the great work was left unfinished.

In China there is the Grand Canal which was begun in the seventh century, and was completed—if we may believe Messer Marco

Polo, the great Venetian traveller some time about 1290. This great waterway is nearly a thousand miles in extent, and connects the cities of Peking and Canton. China has many great rivers, and along their banks, as well as at the seaports, thousands of people live upon the water.

Locks are unknown on Chinese canals; the boats are raised or lowered, when this operation is necessary, on inclined planes by means of capstans.

A historic canal is that which cuts through the Isthmus of Corinth and enables ships to go to Athens.

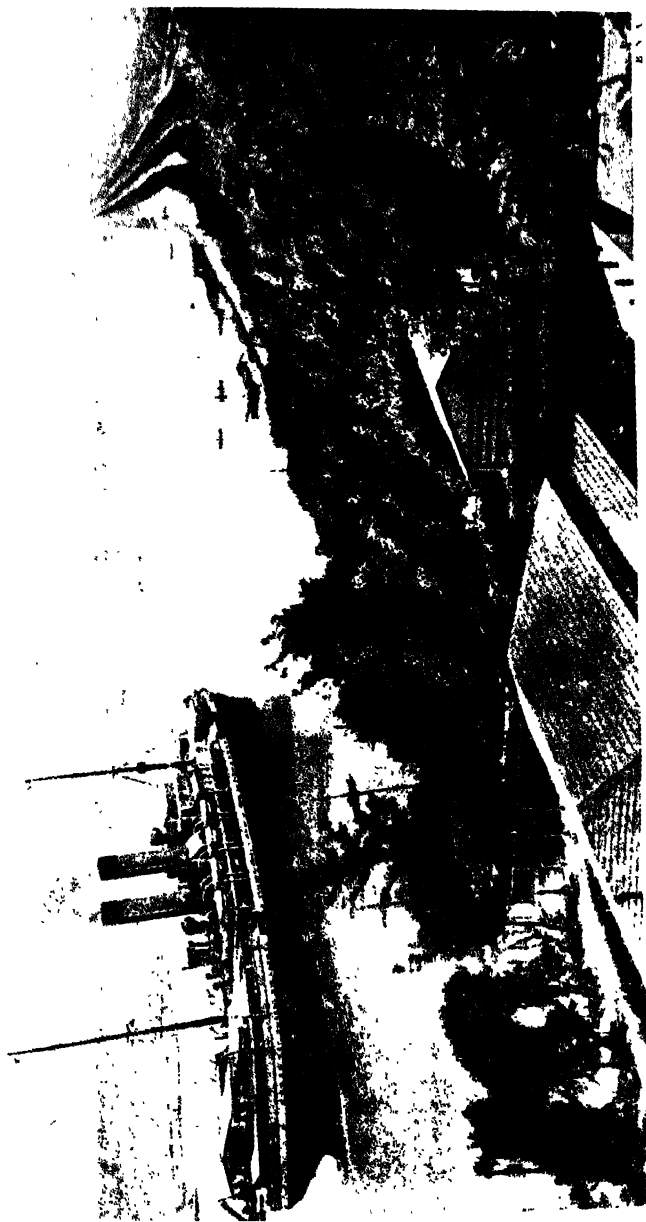


STEAMING THROUGH CORINTH CANAL Four miles in length, the Corinth Canal was made across the Isthmus of Corinth in Greece, joining the gulfs of Corinth and Aegina. The canal is dead straight and about 70 feet wide



PORT SAID AND THE MEDITERRANEAN END OF THE SUEZ CANAL

was begun on the Suez Canal in 1859 and the offices of the Suez Canal Co. were established in Port Said, which was then only a little village. A Frenchman, Ferdinand de Lesseps, who also unsuccessfully attempted to make the Panamá Canal, was the builder of this waterway which joins the Mediterranean with the Red Sea. When the canal was opened to traffic in 1869 Port Said quickly grew into a busy port with a splendid harbour, as can be seen in this aerial photograph. (On the opposite side of the canal is Port Fuad.



LINER STEAMING SLOWLY ALONG THE CANAL
 el Kantara is about 28 miles south of Port Said and lies on the old caravan route across the Isthmus of Suez. The canal is not so narrow at all points as it appears in the photograph, "since it passes through the Balah, Tim an arid the Great and Little Bitter lakes. The water the soil, on the other there is nothing save the barren desert



SHIPS IN THE GATUN LOCKS OF THE PANAMA CANAL

The Gatun Locks are the largest in the world and the concrete walls are 50 feet wide at the bottom. The steel gates of the locks are seven feet thick and the heaviest weighs over 700 tons. The canal is owned by the United States of America, who also control strips of land across the Isthmus of Panamá, five miles wide on each side of the canal

and thence through the Aegean Sea direct to Constantinople, without having to make the voyage round the rocky southern coast of Greece. The saving in distance is some 200 miles. It was the Roman Emperor Nero who first dreamed of this project, and by whose orders work was actually begun upon it. The Corinth Canal, however, remained in an incomplete state until our own time, the opening ceremony taking place in 1893. It is only 4 miles long, almost the shortest of the world's important canals, but it has had to be cut sheer through limestone rock, which in one part is 250 feet above sea level. The Corinth Canal is about 70 feet wide and it has a depth of 26 feet.

While dealing with the great canals of the world we must consider the Suez Canal, which joins the Mediterranean with the Red Sea, and so shortens considerably the voyage to India and Australia. The ancient Egyptians entertained the idea of making such a waterway, and the earliest attempt in this direction is

pictured for us on the temple walls at Karnak. Changes of rulers saw the difficult engineering feat postponed from century to century, and it was not until 1798 that the question of a canal here was seriously gone into. Napoleon I ordered a survey of the district to be made, with the disappointing result that the project was abandoned as impossible. Other engineers considered the idea of a canal in later years, and eventually a Frenchman, Vicomte de Lesseps, was successful in carrying through the great work between 1859 and 1869.

The Suez Canal, which is just over 80 miles long and is 30 feet deep, cost nearly twenty million pounds to construct. Among the world's canals it heads the list for the value of the cargoes borne upon its waters. Over fifteen million tons of shipping pass along the canal each year.

The picture of Port Said in page 418 shows where the canal starts on its way to the Red Sea. This Egyptian



GREAT SHIPS IN THE DRY DOCK AT THE PORT OF BALBOA

Three vessels have come into the dry dock for repairs before passing through the canal. When a ship needs attention below the water line it goes into a dry dock, which at first is full of water, but later on watertight doors at the entrance are shut and the water is pumped out. The boat is propped up so that it does not fall over on its side.



STEAMING THROUGH THE CULEBRA CUT IN THE PANAMA CANAL
Beyond the Gatún Lake we enter the Culebra range. When the Americans began to work here they were driven nearly to despair because the sides of the hills kept falling into the canal, thus making their many months of labour of no avail. But they refused to give in, and here we see the result of their determined efforts and marvellous engineering.



LOOKING DOWN UPON THE PANAMA CANAL JUST BEFORE IT REACHES THE PACIFIC OCEAN

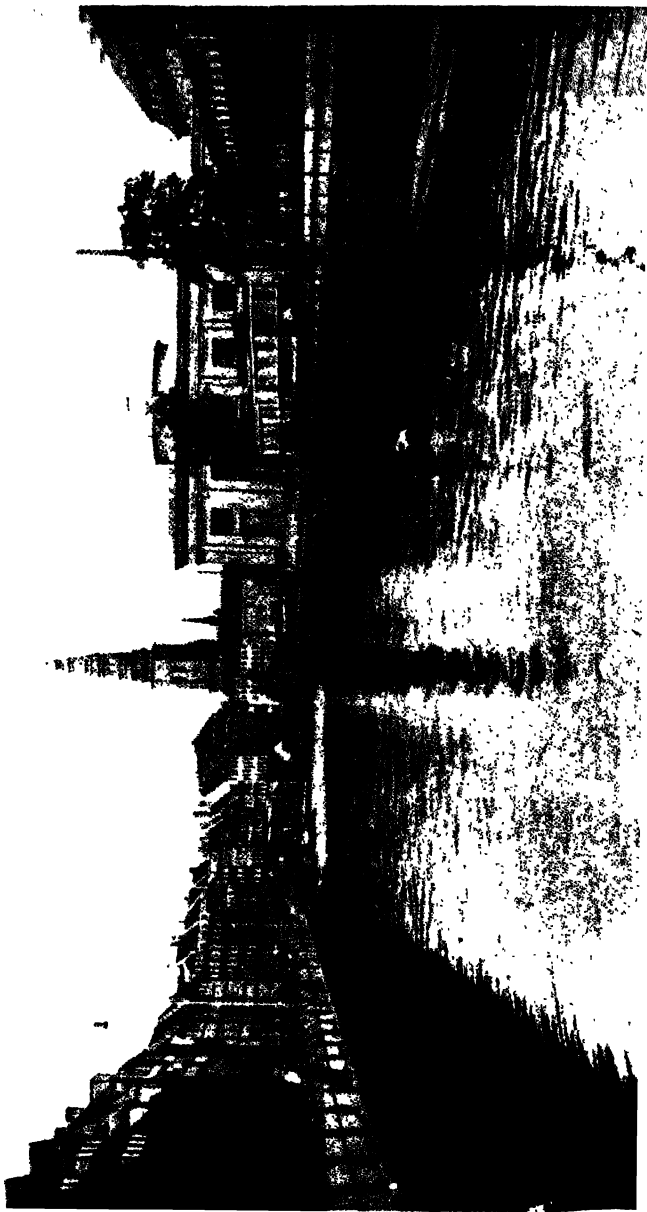
At the foot of the hill is the town of Balboa, named after the Spaniard, who was the first European to see the Pacific, and to the left, out of the photograph, lies the city of Panamá. Balboa owes its existence to the opening of the canal, as it is the western terminus of the waterway. The Spaniards had dreams of cutting America in two and joining the Atlantic and Pacific Oceans, but it was four hundred years before their dream was realised, and the work was done by a nation which did not exist when Spain had a mighty Empire.



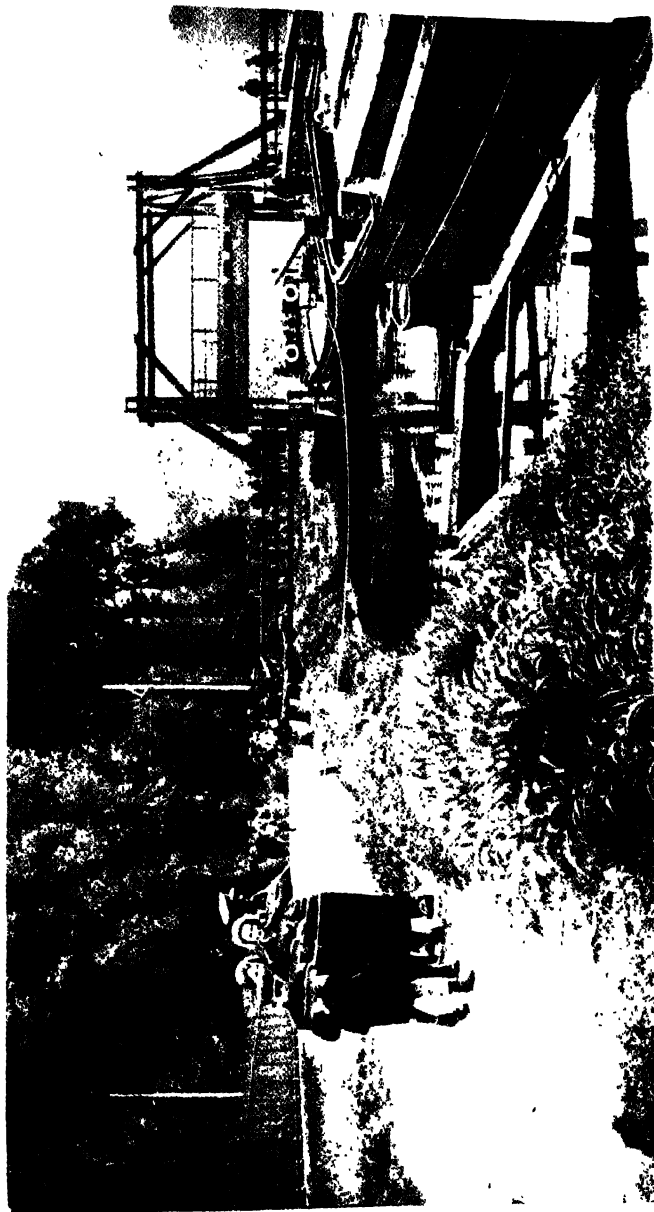
U. S. Navy Department

BATTLESHIPS OF THE UNITED STATES NAVY PASSING THROUGH A LOCK ON THE PANAMA CANAL

In the building of the Panamá Canal, the American engineers had to make an artificial lake. This was done by a huge dam, one and a half miles long, which imprisoned the water of the Chagres River under their own steam, but are pulled along by the electric tractors, which can be seen fastened to the great battleships by steel hawsers. The lake is 85 feet above sea-level, so ships before they enter or leave it have to pass through locks which have a total length of about 1,300 yards. Vessels are not allowed to go through these locks, but are pulled along by the electric tractors, which can be seen fastened to the great battleships by steel hawsers.



CANAL BETWEEN THE PALACE ISLAND AND THE MAINLAND IN COPENHAGEN, DENMARK
 Palace Island, or the Slotsholm, is bounded on three sides by a canal which forms an extension of the harbour. This waterway is used chiefly by the fishing-boats, some of which can be seen in the distance moored by the fish-market. On the right is the Slotsholm, which was fortified in the twelfth century, but now there are no signs of any fortifications. A portion of the Christiansborg Palace, which gives the island its name, can be seen on the extreme right, and the building behind the trams is the Thorwaldsen Museum.



HOBOLIA

ALL HANDS TO THE ROPE TO PULL A BARGE ALONG A CANAL IN BELGIUM

In England barges are generally drawn by horses, but in Belgium the captain of the barge and his family put on the harness and plod along the bank. It will be noticed that many of the people who are waiting for the bridge to be lowered have bicycles, which are used by the peasants and workmen in getting to and from their work. Belgium, like the Netherlands to the north, has a splendid system of canals, along which barges loaded with all kinds of merchandise go to the great cities, the coast or into France and the Netherlands,



STEAMER ENTERING THE LOCKS BESIDE THE VRANGFOS, NORWAY

One of the most interesting canals in Norway is that between Lakes Bandak and Nordsjø. The canal is only about 10½ miles in length and yet it contains 17 locks. To avoid the rapids of the Vrangfos River a staircase of six locks had to be made. Compared with the marvellous Gatún Locks (page 420) these seem to be very small.

port was an insignificant village before de Lesseps began his engineering work; now, of course, it has grown to be an important town and is the centre of its district. It is here at Port Said, at Ismailia half way down, and at Port Tewfik at the farther end, that the traffic of the canal is controlled. The officials responsible for the handling of ships passing through employ a model canal in their work. Directly a vessel enters the waterway its position is marked upon the model. Then, as it is passed from one "gare," or station, to another, a similar change is noted by the officials, so that at every stage the model shows the exact positions of the several

vessels that are passing through. From the offices orders are sent by telegram or telephone, and the ship's pilot receives his instructions by signals.

Actually, let it be noted, the Suez Canal does not go to Suez. For some reason, possibly a political one, de Lesseps ignored the ancient channel which ran by the town; he turned off to the east, avoiding the head of the gulf, and the canal made a port for itself at Tewfik, which is called in French Terrepain, where the southern offices of the company are stationed.

Equally romantic has been the history of the Panamá Canal, which links the Atlantic and Pacific oceans. The old

MIGHTY WATERWAYS MADE BY MAN

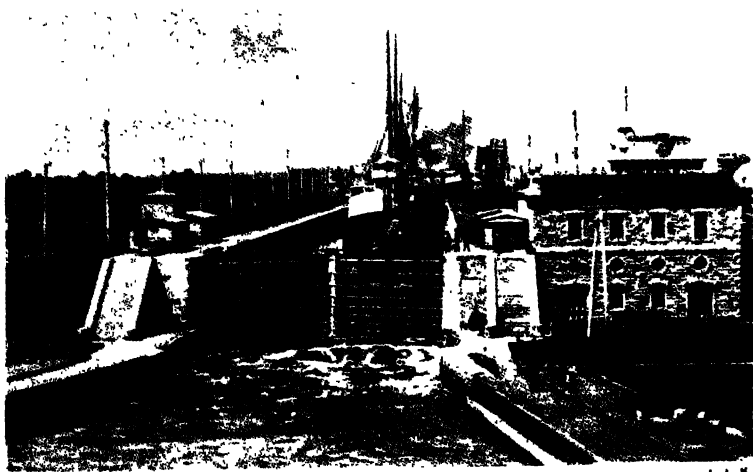
Spanish and Portuguese voyagers fondly believed in the existence of a strait penetrating the Isthmus of Panamá, and when this was disproved the idea of an artificial waterway was suggested. For many years there was rivalry between Nicaragua and Panamá, who both wanted the waterway to pass through their territory. Scores of surveys were made in both countries, but it was not until 1879 that the first practical steps were taken to unite the two oceans. De Lesseps was in charge of the operations, and the French spent seventy million pounds before only a fifth of the work had been accomplished.

There had been gross mismanagement and extravagance in the French undertaking. When, in 1903, the new government of Panamá sold the Isthmus Canal strip to the United States, the real work of construction was commenced. Under an army of white and coloured labourers, the great canal was driven from Colón through the Gatún Lake and the Chagres River across the isthmus to Panamá. In 1920 the canal was officially opened.

Among the most interesting features of this gigantic undertaking is the Gatún Dam, with its three-stepped, double-flighted stairway of locks. The dam was formed to check the waters of the mighty Chagres, which is subject to raging floods. It was this river that presented the greatest obstacle to the French engineers under de Lesseps.

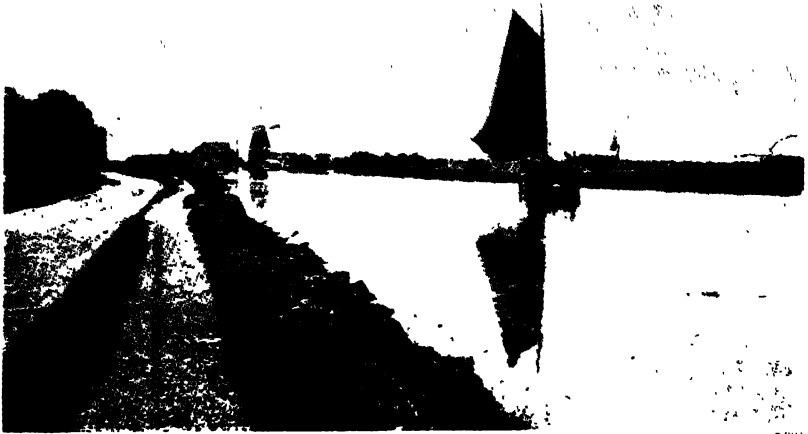
One great problem to be encountered by the American engineers was the immense Culebra Cut. A deep and wide passage had to be made through nine miles of a huge mass of rock, shifting clay and unstable earth. Over and over again landslides occurred, destroying all the patient work of months. Eventually these difficulties were surmounted and the cutting was completed, the greatest width of the canal here being 2,000 feet. It is through the Culebra Cut that ships reach the Pedro Miguel Lock on their way to Miraflores Lake.

What the Panamá Canal means to British shipping is the saving of 6,000 miles in the voyage from Liverpool to San Francisco. The United States gain a



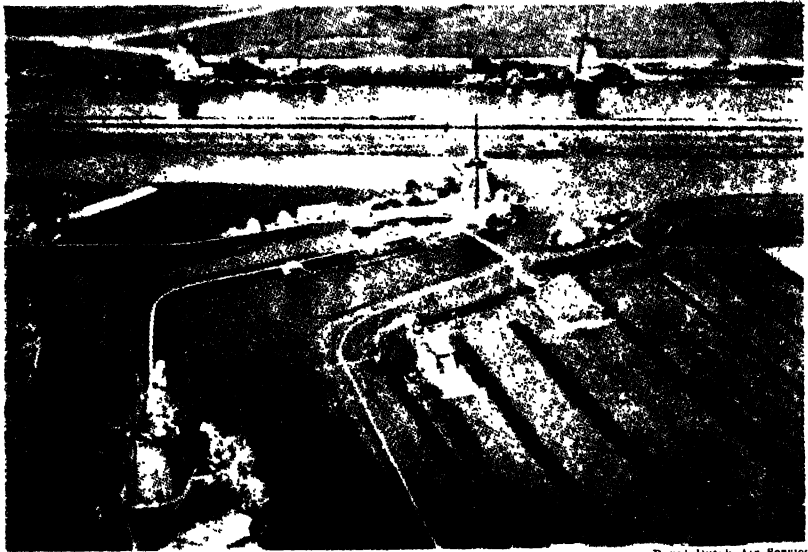
IMPORTANT CANADIAN CANAL OF SAULT SAINTE MARIE

In 1895 this canal, which forms a passage for large vessels between Lakes Huron and Superior, was opened. It is just over a mile in length and has one lock, which is shown here. The waterway is closed for over three months in the winter owing to the ice, which is too thick for breaking. There is also an American canal between the lakes.



BROAD CANAL TRAVERSING THE LOW LAND OF HOLLAND

Windmills and canals seem to be everywhere in the Netherlands, where the flatness of the country allows every breeze to fill the sails of the former and makes the building of the latter very easy. Canals have been used to join up the great rivers, such as the Rhine, Maas, Schelde and Waal, so that it is possible to go all over the country by water.



WINDMILLS BESIDE THE CANALS NEAR THE TOWN OF SCHIEDAM

More than a third of the Netherlands is below sea-level, and the people have had to fight hard to keep their country from being flooded. Dykes and canals have been built to keep the water in check, and windmills work pumps which keep it at the proper level. From the photograph we can see that even the fields are separated by dykes.

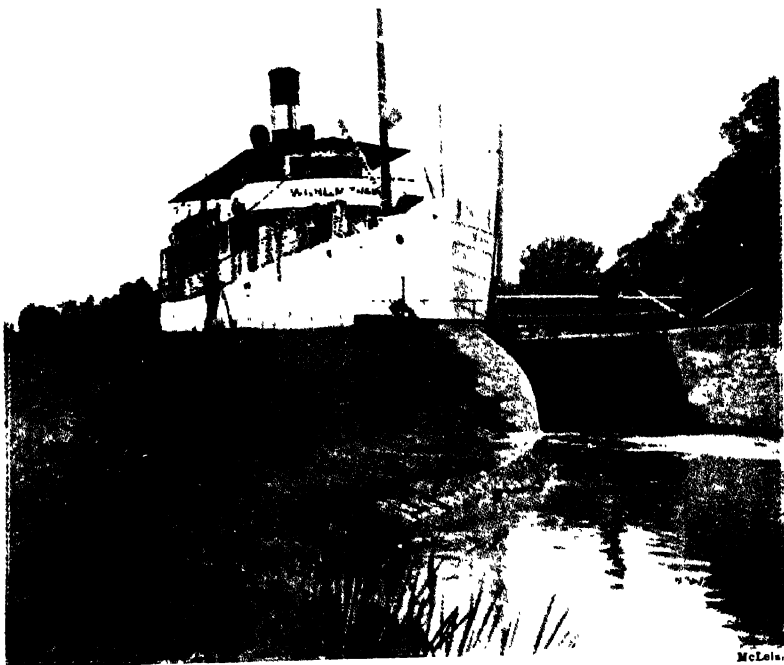
Royal Dutch Air Service



Galloway

IN A LOCK OF THE CALEDONIAN CANAL, SCOTLAND

The Caledonian Canal extends from Moray Firth to Loch Linnhe, a distance of 60½ miles ; but only 23 miles of the waterway had to be made by the engineers, the rest being formed by a chain of four lakes. There are 28 locks, which are opened and closed by hand in the way shown by the sailors on the right of the photograph



McLellan

STEAMER ON THE CANAL BETWEEN GOTHENBURG AND STOCKHOLM
Gothenburg, on the Kattegat, and Stockholm, on the Baltic, are joined by the Göta Canal, which is 240 miles long. The construction was first begun in 1716, but the canal was not opened until 1832, much of the work being done by a Scottish engineer, Thomas Telford. At its highest point the Göta Canal is 300 feet above sea-level.



HOUSES BESIDE A WATERWAY IN BATAVIA,
In their own country of the Netherlands the Hollanders have made hundreds of canals, and they have constructed them or improved existing ones in many Dutch possessions all over the world. Batavia, which is the chief port of Java, has a splendid system of canals, along

THE CAPITAL OF THE DUTCH EAST INDIES
which barges go to the harbour. This photograph was taken in the business quarter of the town, which is not inhabited by Europeans as it is unhealthy. The lower storeys of the houses by the canals are sometimes used as warehouses, the owners living on the upper floor.



E. N. A.

FLOATING HOMES CROWDED TOGETHER UPON THE SHAMEEN CANAL IN CANTON, CHINA

Canton is situated on the Chu-kiang or Pearl River and has waterways running in nearly every direction. The Shameen Canal separates the European quarter from the Chinese city and is about 100 feet wide. Visitors to Canton are always surprised at the large number of people who live in boats. These boats, or sampans as they are called, are only about 14 feet in length, but a single boat may serve as a home for two or three families. The children play about on the boats without the parents paying the slightest attention.

MIGHTY WATERWAYS MADE BY MAN

a still greater advantage, for a United States vessel, bound from New York to San Francisco, will cover 5,000 miles instead of 13,000 as formerly. The distance between New Orleans and Vancouver is shortened in a similar manner by some 9,000 miles. Colón is the canal port at the Atlantic end, and Balboa lies at its Pacific extremity.

Britain's Neglected Waterways

In Europe the canal has played an important part in commercial enterprise. British canals, with a few exceptions, have suffered neglect, but it is estimated that before the advent of railways there were at least 3,000 miles of navigable waterways in this country. The Manchester Ship Canal, with a length of 35½ miles, was opened in 1894, and the tonnage of the ships using it runs into millions of tons. Another important canal is the Caledonian, which stretches for over 60 miles along the Great Glen, from the Moray Firth to Loch Linnhe, in North Scotland. Only some 23 miles of this waterway were artificially cut, for a chain of lakes was utilised for the purpose. The Caledonian Canal is navigable by ships of 600 tons.

Belgium has ever been foremost in the matter of inland navigation, her total length of canals amounting to about 1,360 miles. This means that manufacturers in that country are provided with the cheapest and most complete method of transport. The picture in page 425 of a barge being worked through a lock is typical of Belgian canal life, and it is not unlike many similar scenes to be witnessed on the canal side in our own land, except that a horse here takes the place of manual labour.

How Rivers are Joined Together

In the Netherlands, that country of dykes and reclaimed land, the principal rivers—such as the Rhine, Schelde, Maas and Waal—are connected with each other by a veritable network of canals. France also has an excellently controlled canal

system, that links all her large rivers together and connects up with the canals of Germany and Central Europe.

Both Sweden and Denmark have recognised the value of a canal system, and a very large volume of passenger and goods traffic is carried annually along their waterways. The famous Göta Canal, in Sweden, links the Kattegat with the Baltic, and thereby considerably shortens the sea journey between Gothenburg and Stockholm. It utilises the Göta River and several lakes, but, while it has a length of 240 miles in all, the actual canal portion is only 55 miles. Some 5,000 vessels pass through this canal yearly.

Leaving Europe, we may note the two celebrated canals of Sault Sainte Marie in North America, which open a passage for big ships passing between Lake Superior and Lake Huron. The Canadian canal is over a mile in length and has a great lock 900 feet long and 60 feet deep, which is emptied and filled by electric power. Although very short in extent these Sault Sainte Marie canals help to control an immense amount of Canadian and American traffic.

The "Soo" Canals Outdo the Suez

A comparison of records shows that a greater tonnage of vessels passes annually through the "Soo" canals, as they are sometimes called, than through the Suez Canal, but, of course, the cargoes carried by the latter are far greater in value.

We must mention also the Welland Canal, which joins Lakes Erie and Ontario, enabling large ships to go direct from the Upper Lakes to the St. Lawrence. Ottawa owes its origin to the Rideau Canal, which was constructed to connect Canada at Quebec with Lake Ontario.

In the East the canal is employed for commercial purposes. In page 430 is a photograph of Batavia, in the Dutch East Indies, where we see how busy such a waterway is with its laden barges. Siam, too, is well served, for a series of canals traverses the plain of central Siam.

END OF FIRST VOLUME

